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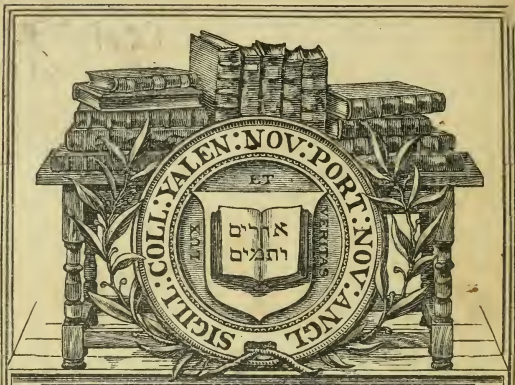

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A

TREATISE

ON THE

DISEASES OF THE JOINTS:

BEING THE

OBSERVATIONS

FOR WHICH

THE PRIZE FOR 1806

WAS ADJUDGED

BY THE

ROYAL COLLEGE OF SURGEONS IN LONDON.

BY

SAMUEL COOPER,

MEMBER OF THE ABOVE COLLEGE; FELLOW OF THE MEDICAL SOCIETY OF LONDON; AUTHOR OF CRITICAL REFLECTIONS ON THE CATARACT, AND OF THE FIRST LINES OF THE PRACTICE OF SURGERY, &c.

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TO

JOHN PAINTER VINCENT, ESQ.

ASSISTANT SURGEON TO

ST. BARTHOLOMEW'S HOSPITAL;

THIS ESSAY

IS INSCRIBED,

AS A

TESTIMONY

OF ESTEEM AND RESPECT,

BY

HIS SINCERE FRIEND,

THE AUTHOR.

Golden-square, Sept. 11, 1807.

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INTRODUCTION.

TO enter into a minute account of all the particulars now known, relative to the numerous morbid affections of the joints, would form a tedious compilation of circumstances, too well known to need repetition, and too numerous to be comprehended in the ordinary limits of a dissertation An unprofitable

transcript of what almost every system of surgery contains would also form a large proportion of such an undertaking.

I shall suppose, that the experienced men, to whom I address myself, will readily dispense with my reviving the consideration of many antiquated opinions, merely for the sake of reducing them by argument to the same obsolete state, in which they were previously found.

I am confident, that these gentlemen will not expect me to dwell on many modern proposals, which are

branded with such palpable absurdity, that they will for ever be expelled from the field of practice, where alone they might interest mankind, and become of real importance.

The plan, which I have pursued in the following pages, is to offer, in the first place, a cursory and general sketch of several principal diseases of the joints, and the outlines of the treatment adapted to them.

Secondly; I have entered into a particular consideration of the white

swelling of the knee, and the treatment of the disease.

Lastly; I have made the morbid affection, usually denominated, the "disease of the hip joint," the subject of my reflections.

In performing this task, my ambition has been to communicate, in a simple style, useful practical information. I have made no intentional effort to dazzle the judgment of my readers, by an ostentatious list of authors in the margin; quotations from old works, which are now almost as dead as the men who

wrote them; or by the tinsel decorations of composition. The books, which I have quoted, in the course of this production, are only cited to illustrate important facts, or to expose erroneous doctrines. The empty display of extensive reading, is what I sincerely despise.

A TREATISE

ON THE

DISEASES OF THE JOINTS.

PART I.

A CURSORY, AND GENERAL, SKETCH OF SEVERAL PRINCIPAL DISEASES OF THE JOINTS, AND THE OUTLINES OF THE TREATMENT ADAPTED TO THEM.

CHAP. I.

Preliminary Remarks relative to the Pathology of the Joints.

IF we recal to our recollection the anatomical structure of the joints, we shall find, that the heads of the bones, which

are concerned in the formation of these parts, are of a spongy texture, and connected together by strong ligaments, while their articular surfaces are covered with a beautifully polished, elastic substance, called cartilage. The smoothness and elasticity of the cartilages, are qualities rendering them peculiarly proper for gliding with ease over each other in the motion of the joints, and for breaking the force of such shocks, as the limbs have to sustain in jumping, running, and other ordinary exercises of life. In order that the articular surfaces of the bones may move with still greater ease upon each other, we find, that their cartilaginous coverings are constantly lubricated with an albuminous secretion, termed the synovia.

It was a valuable observation, made by the late Mr. Hunter, and one upon which he laid much stress, that the characters of local diseases differed very materially, according to the situation, structure, and functions, of the morbid part. When

diseases are situated in parts, which enjoy a vigorous circulation of blood through them, they assume a very different aspect from what they would do, were they in a situation, in which the circulation is naturally languid, or in which there are only (comparatively speaking) few vessels, and those of very small diameter. When the part affected is, what anatomists term, highly organized, and vascular, the disorder is generally more mild and tractable, than if the part were only furnished with such small vessels, that it could not be rendered red by anatomical injections.

But, besides great vascularity, and high organization, of structure, a situation near the source of the circulation seems oftentimes to render parts less disposed to become diseased, and, not only better able to resist the attack of morbid affections, but, also, more prone to return, when so attacked, to a state of health. However, if the functions of the parts affected be intimately essential to the conti-

nuance of life, then, as Mr. Hunter observes, the natural operations of universal health depend so much upon their sound condition, that the local disease has not the same tendency to end well, as if it were situated in a part of similar structure, but of different functions.

When we apply these remarks to the joints, we may in some measure account for the frequency, obstinacy, and peril of their diseases; at least, we may discover general principles, to which such circumstances may rationally be referred.

The cartilages and ligaments, the bones themselves, are parts endued with an inferior degree of vascularity, and the quantity of blood, with which they are furnished, is, when compared with that of most other parts, exceedingly inconsiderable. This is, perhaps, one principal cause, why the joints in general are so backward in recovering from the effects of accidental injuries, and so slow in freeing themselves from a state of disease.

It is very well known, that diseases of the upper extremity, are generally more tractable, than those of the lower one. Every part of the arm may be considered, as being nearer, than the whole of the lower extremity, to the source of the circulation. This circumstance may, perhaps, explain, why diseases, situated in the arm, are much more under the control of surgery, than when they affect the leg. How much more seldom scrophulous elbow-joints require amputation, how much more frequently they are cured, than similar affections of the knee! We may, also, deduce another reason for this fact from a comparative consideration of the functions of these two articulations. When a patient has a complaint in the elbow, or wrist, he places his arm in a sling, walks about, visits his friends, and takes his usual exercise; his general health is neither impaired by confinement, nor by that dejection of spirits, which so frequently attends the long privation of loco-

motion, and the apprehension of losing this enjoyment for ever.

The structure of the knee-joint is more complicated, than that of any other articulation in the body. Besides the capsular and lateral ligaments, which it has, in common with the majority of other joints, it is also furnished with particular ligaments, named the crucial ones, and with interarticular semilunar cartilages. The complication of its structure may also seem to the contemplative pathologist a reason, why its diseases should not only be more frequent, but, at the same time, more obstinate, and difficult of cure, than those of other joints. The articular surfaces of the knee, and the cavity of its capsular ligament, are also much larger, than those of any other articulation.

The hip-joint is greatly protected by its deep situation from blows, and other species of external violence; from the bad effects of sudden vicissitudes of temperature; and from the operation of outward

damp. These circumstances, which, undoubtedly, are very frequently the primary exciting causes of the very worst diseases of the joints, must affect the knee with peculiar force, on account of its exposed situation, and the vicinity of its cavity to the surface of the body. Hence, it seems a matter of no surprise, that the hip-joint should be much less frequently diseased, than the latter articulation.

No large joint in the human body is so little strengthened, and supported, by the conformation of the bones, as the knee; no other important joint derives its strength so entirely from ligaments, as this does. The ankle receives lateral support from the two malleoli. In the hip, the head of the os femoris is almost enclosed in a complete bony socket. In the elbow, the deep sigmoid cavity of the ulna, formed between the coronoid and olecranon processes, affords a very stable lodgment to the internal portion of the articular surface of the os brachii, so that the latter

is almost securely fixed in its situation without the assistance of ligaments. The groove, also, which is formed on the lower end of the os brachii, and receives a portion of the ulna, contributes very materially to the stability of the articulation. From the preceding observations, it becomes very obvious, that the ligaments of the knee must be particularly exposed to sprains, and, here, may I be permitted to remark, that such accidents are too frequently the forerunners of the most serious morbid mischief, to which the joint is liable; and we have every reason to believe, that the ligaments are the structure, in which most of the worst diseases of this articulation first originate.

The strength of the wrist, however, seems to depend chiefly on ligaments; and, as this joint is also much exposed to the effects of external violence, and is more remote, than the elbow, from the source of the circulation, we cannot wonder, that it should be more prone, than the latter, to

disease. But, its not being morbidly affected so often, as the ankle, must be imputed to situation. Both the ankle and wrist, however, are very frequently affected with such serious maladies, as waste the vigour of the constitution, and even render amputation indispensable. In these cases, the disease oftentimes commences in the tarsus, and carpus, and subsequently involves the ankle and wrist in its ravages.

The great quantity of cartilaginous and ligamentous structure, surrounding the bones of the tarsus and carpus, and the spongy texture of the bones themselves, are sufficient reasons, without enumerating others, to account for the frequency of disease in these situations. The morbid affections of the carpus are, in general, much more tractable, than those of the tarsus. The reason of this fact may very rationally be referred to principles, which have been already noticed.

When we recollect, that the diseases, which form the chief objects of investigation in the subsequent pages, are of a scrophulous nature, we cannot be surprised, that, situated as they are in a structure, peculiarly unfavourable to the amendment of disease in general, they should so frequently baffle all the power of the surgical art.

When diseases affect parts, which seem to possess, like the joints, very inferior powers of recovery, the effects of the local disorder on the constitution are proportionally more severe. Hence, the mere inflammation of a large joint is often attended with so high a degree of inflammatory fever, and such disorder of the nervous system, that the preservation of life itself is at stake. Hence, also, diseases of the joints sooner induce hectic symptoms, than when there is an equal quantity of disease in almost any other part.

Having premised these general patholo-

gical observations, I next proceed to delineate the outlines of several principal diseases, to which the joints are subject: all accidental injuries, such as fractures, luxations, &c. and all subjects, not strictly surgical, such as gout, rheumatism, &c. being purposely omitted.

CHAP. II.

Inflammation of Joints.

IDIOPATHIC cases of this kind are not common. The complaint ordinarily originates in consequence of a contusion, sprain, wound, or some other kind of injury, done to the part affected.

Phlegmonous inflammation, wheresoever situated, is uniformly attended with certain local symptoms, by which both its presence and degree may be ascertained. Preternatural redness, increased heat, a throbbing pain, and a tense swelling, affecting the seat of its attack, are the common marks, which denote its existence in all situations. When a joint is inflamed, the same local phenomena are present, and the constitution is disturbed by the usual symptoms of inflammatory fever; but, in these cases, they are apt to be exceedingly

severe. The inflammation attacks the capsular ligaments, and, not remaining confined to any particular portion of them, it very quickly diffuses itself universally over their whole extent, as is commonly the case in all inflammations of smooth membranes. That there is this peculiarity in inflammation of membranes, is often strikingly proved in the instance of peritonitis, arising after the operation of lithotomy. Here we know, that the inflammation commences in the bladder, is communicated to the portion of the peritoneum, which covers the fundus, and posterior surface, of this viscus, and, thence, rapidly spreads over the whole extent of the abdomen.

The capsules of the joints are naturally endued with little sensibility; but, like many other parts, similarly circumstanced, they become acutely painful when inflamed. The complaint is accompanied by an increased secretion of the synovia, which becomes of a more aqueous, and of

a less albuminous quality, than it is in the healthy state. Hence, this fluid is not so well calculated for lubricating the articular surfaces, and preventing the effects of friction, as it is in the natural condition of the joint. This circumstance may explain, why a grating sensation is often perceived on moving the patella, when the knee is inflamed. The increased quantity of synovia, in cases of inflamed joints, has often appeared to me an argument against the existence of a spasmodic constriction of the minute vessels in inflammation.

The capsules of the joints may, like other membranes, be thickened by inflammation. At other times, an exudation of coagulating lymph, or an effusion of a gelatinous fluid, may take place upon their internal surfaces. According to a general law of the animal economy, the contiguous vessels always have a tendency to shoot into coagulating lymph, when thus extravasated, and the result is, that

organized substances, such as cartilaginous and osseous bodies, &c. are formed in the interior of the joint.

If the inflammation be more vehement, suppuration may happen within the capsular ligament. Indeed, this is, by no means, an unfrequent occurrence. At length, the capsular ligament ulcerates, and purulent matter is effused beneath the integuments. The skin may next ulcerate, so that the abscess is discharged, and the case seems to be somewhat benefited. The openings, through which such collections of matter are discharged, will be found, upon examination with a probe, to be the terminations of sinuses leading into the cavity of the joint.

A large joint seldom falls into a state of suppuration in consequence of acute inflammation, without the constitution being, at the same time, so disturbed, that life itself is greatly endangered. In the most vehement state of the inflammation, or that, which is the immediate forerunner

of suppuration, the pulse is exceedingly frequent; but, not quite so full, and strong, as it would be, if the part affected were of a structure better adapted to resist the ravages of disease. The patient's skin is dry and hot; he is restless and vigilant; and, I have known persons, under these circumstances, become affected with delirium and coma, and ultimately perish.

But, the rapidity, with which the common inflammatory fever assumes, in such cases, the hectic type, is a circumstance, which it would be inexcusable to pass over in silence. When suppuration has occurred in a large joint, in consequence of a severe attack of common inflammation, the patient immediately begins to be affected with hectic symptoms, and the strong action, attendant on the inflammatory fever, suddenly ceases

Local consequences, even worse, than those, which I have described, may follow inflammation of a joint. As the layer of the capsular ligament, reflected over the

cartilages of the articulation, is often inflamed, the cartilages themselves are very apt to have the inflammation communicated to them. Parts, partaking of a cartilaginous structure, being very incapable of bearing the irritation of disease, often ulcerate, or, in other words, are absorbed, so as to leave a portion, or, the whole, of the articular surface of the bones, completely denuded of its natural covering. At length, the heads of the bones, entering into the formation of the affected joint, inflame, and become carious.

Sometimes, only such parts, as are exterior to the cavity of the joint, are inflamed, and, in this case, the symptoms are never so severe,* nor so obstinate, as when the complaint interests the capsular ligament, and parts contained in it. Even when suppuration takes place on the outside of the capsule, the case is not dan-

* Treatise on the Morbid Affections of the Knee Joint, by James Russel, p. 60.

gerous, provided the cavity of the joint be not involved in the inflammatory attack. Every inflammation of a large joint may, upon the whole, be deemed a case of considerable importance. I do not mean to assert, that cases, in which the inflammation is mild in degree, and simple in its nature, are dangerous: no; I only wish to inculcate, that though the inflammation be originally genuine, it is always very likely to be converted into one of a specific nature, whenever there is a tendency in the system to scrophulous disorder. A person, whose constitution is scrophulous, may sometimes continue, during life, exempt from any local diseases of this specific nature, provided he be fortunate enough to avoid all irritation of parts, on which scrophula is most particularly disposed to make its attack. Among such parts we must class the joints, especially the knee, hip, elbow, and ankle. Hence, when a joint is inflamed, how mild soever the affection may be, we ought ne-

ver to forget, that when there is a tendency to scrophula in the system, the original case of simple inflammation is very apt to be the exciting cause of the white swelling, one of the most severe and intractable diseases, which increase the catalogue of human miseries.

After what has been said, it must be obvious, that, whatever may be the curative means indicated, they ought to be most rigorously adopted, not merely on account of an abstract view of the present state of the case, but, also, on account of the opportunity, which is now afforded for a terrible disease to arise, which often remains previously in a dormant state.

CHAP. III.

Treatment of inflamed Joints; and two Cases, illustrative of the Subject.

IT will considerably shorten this part of my observations to state, that the antiphlogistic plan of treatment, in the full sense of the expression, is to be strictly adopted. But, as there is a variety of means, often adapted to the same purpose, it seems necessary to offer a few remarks on those, which lay the greatest claim to our commendations. Also, as the treatment of inflammation of the knee will illustrate that of all other large joints, I shall select this case, as an example.

From what I have seen of this affection, I have no hesitation in asserting, that there are few other surgical cases, in which general, and, especially, topical bleeding, is more strongly indicated. The violence of the inflammation, and the strength, age,

and pulse, of the patient, must determine with regard to the use of the lancet; but, the topical application of leeches may be said to be invariably proper. When the leeches fall off, the bleeding is to be promoted by fomenting the part. The surgeon should daily persist in this practice, until the acute stage of the inflammation has entirely subsided. But, in conjunction with this treatment, we are to keep the joint continually surrounded with linen, wet with the saturnine lotion. In no case of local inflammation are the application of cold lotions, and the maintenance of a constant evaporation from the surface of the part affected, more strikingly advantageous.

In a few instances, however, the patient seems to derive more ease and benefit from the employment of fomentations and emollient poultices. I would always recommend the feelings of the patient to be consulted; for, if the pain be materially alle-

viated by this, or that application, the employment of it will hardly ever be wrong.

I shall say nothing more, concerning the rest of the treatment, proper during the vehemence of the inflammation, as the duty of the surgeon is not materially different from what it is in other inflammatory cases.

When the acute stage of the inflammation has abated, the plan of treatment may be a little altered. The grand object now is to remove the effects, which have been left by the preceding affection. These are a thickened state of the capsular ligament, and parts surrounding the articulation; a stiffness of the joint, and pain, when it is moved; a collection of fluid in the capsule, &c. This state of the complaint, when neglected, and there is a tendency to scrophula, may prove exceedingly obstinate, and even terminate in an irremediable, specific, distemper of the joint. Common inflammation of an arti-

culation, like the same affection of the eye, is peculiarly apt to end in a chronic species of the affection, even more difficult of cure, than the acute stage of the complaint. When, therefore, the redness, tension, throbbing, and symptoms of inflammatory fever, subside, the activity of the practitioner ought not to be relaxed. The application of a blister is what I have found particularly efficacious in the second stage of the inflammation, and a discharge should be kept up from the blistered surface, for a few days, by means of the savin cerate.

I have often seen exceedingly large collections of fluid in the capsular ligament, the thickening about the joint, and other remaining effects of the inflammation, totally dispersed, under such treatment, in the short space of ten days from the period, when the blister was first applied.

In other cases, in which the inflammation has been more trivial, and the effects, which it has left, are slight, lotions, com-

posed of vinegar and sal ammoniac, suffice for the removal of the chronic complaints, continuing after the abatement of the acute stage of the disorder. My own experience enables me to confirm the reputation, which such applications have most justly acquired.

To illustrate the present subject, I shall select the two following cases from several others, which have fallen under my own observation.

CASE I.

A young man, about twenty-three years of age, fell from the top of a coach, August 20th, 1799, and bruised his knee against the back part of the carriage. As soon as I was called to the patient, I applied the saturnine lotion to his injured knee, and gave him some purgative medicine, consisting of the infusum sennæ, and natron vitriolatum. Notwithstanding

these measures, I found the joint, on the following day, very considerably swollen; the pain in the part very acute; and all motion of the articulation utterly insupportable. The patient's pulse was accelerated, and his skin dry. Ten leeches were put on the joint, and full ten ounces of blood were taken from the arm. As the severity of the pain was much complained of in the evening, a grain of opium was administered.

August 22. The patient had slept but indifferently, and a good deal of pain was still experienced in the injured part. As the redness, swelling, and tension, were considerable, I ordered eight more leeches to be applied, and the purgative draught to be repeated. At night, the patient took twenty drops of the tinctura opii.

August 23. The man had enjoyed some refreshing sleep. This morning his pulse was eighty, and the redness, swelling, tension, and heat about the joint, were somewhat diminished.

August 30. The acute symptoms were now all removed. The treatment, since the last date, merely consisted in applying continually the saturnine lotion. However, the patient still complained of a degree of pain in the articulation, and there was obviously a preternatural quantity of fluid in the capsular ligament. Although the tumefaction of the integuments had subsided, this accumulation of fluid, and some thickening of the capsule, caused the joint to seem still somewhat enlarged. I now applied a blister immediately over the patella, and front of the joint.

August 31. The blister had raised the cuticle in the most desirable manner. The patient found infinite relief, and said the part was less painful, than it had been ever since the first occurrence of the accident. The cuticle was removed, and the blistered surface was dressed with the ceratum sabinæ.

September 3. The blister discharged

copiously, and the pain and swelling of the joint were daily diminishing.

September 17. The blister was healed, and the knee was not all larger than at the other one.

REMARKS.

This case places in a very strong light the utility of employing active measures for the removal of such effects, as frequently remain after the acute stage of the inflammation has subsided. Had nothing been done to reduce the thickened state of the capsular ligament, and to disperse the fluid in the cavity of the joint; had the patient imprudently attempted to walk about, instead of remaining quietly in his bed; I really believe, from the degree of pain which he continually experienced in the articulation until the blister was applied, that the affection might have been converted into a very serious disease.

Had the patient been of a scrophulous habit, the hazard would have been still greater.

CASE II.

The following case is mentioned to shew, how violent the constitutional symptoms sometimes are, when the knee joint is vehemently inflamed, in consequence of a wound.

In June 1800, a lad, about sixteen years of age, accidentally wounded his knee with a penknife, in attempting to stop the instrument as it was falling. The point had penetrated the capsular ligament on the inside of the right knee. The wound of the skin was not more, than half an inch in length, and was closed very accurately with sticking plaster soon after the accident. The lotio aq. litharg. acet. was applied round the injured joint. The day after the accident, the joint was prodi-

giously swollen, and the patient in a very feverish state. Notwithstanding general and local bleeding was extensively and repeatedly practised, while other evacuations were not neglected, the tumefaction of the part continued to increase, and a most violent symptomatic fever supervened. In short, the lad became delirious on the fifth day, and died on the seventh. When the first dressings were removed, on the fourth day, the wound, however, had shewn a disposition to unite in a favourable manner.

REMARKS.

I believe the severity of the constitutional symptoms is always greater, when the inflammation of a joint arises from a wound, than when it is the consequence of a contusion, or sprain. In considering the next subject, we shall see, however, that wounds may frequently be made into

the large joint of the knee, without being followed by any material inflammation. But, when inflammation of a joint does arise from a wound, my experience leads me to suspect, that the constitution is always more disturbed, than when the complaint occurs without a breach of continuity in the capsular ligament.

CHAP. IV.

Preternatural cartilaginous Substances in the Joints.

THE ancients have either neglected to notice this disease in their writings, or they have not been at all acquainted with it. Ambrose Paré* is the first author, who mentions it: he had made an incision in order to evacuate some fluid from the cavity of the knee joint, when a hard, polished, white body, about as large as an almond, was discharged from the wound. Since the time of this illustrious practitioner, many eminent men have called our attention to the particulars of the complaint. Of these Reimarus,† Morgagni,‡ Brom-

* Livre xxv. Chapitre 15.

† Diss. de tumore ligamentorum circa articulos. 1757.

‡ De sed. et caus. morb.

feild,* Ford,† Desault,‡ Home,§ Hey,‖ and Abernethy,¶ form only a small number; but, as it is in their writings, that we find the most interesting information on the subject, I deem it superfluous to enumerate other authors.

The external part of the extraneous substances, in question, is commonly of a cartilaginous consistence, while their central part is frequently osseous. Their figure is subject to great variety; but, they usually have one concave side, and another which is convex. They are, for the most part, formed in the knee-joint, and have been supposed by Reimarus, and some other writers, to be met with in no

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* Chirurgical Cases and Observations. Appendix to vol. i.

† Med. Observ. and Inquiries. Vol. v.

‡ Journ. de Chirurgie. Tom. ii.

§ Med. and Chirurg. Transactions. Vol. i.

‖ Practical Observations in Surgery.

¶ Surgical Observations. 1804.

other articulation. Morgagni, however, has seen ossified bodies of this kind in the articulation of the leg. Haller, also, discovered a great number of cartilaginous bodies in the articulation of the jaw, where the natural cartilages of the joint had been destroyed. Mr. Hey mentions a case, in which there were two bodies of this description in the elbow-joint. The largest, that I have ever heard of, is mentioned by Mr. Home, as being nearly as large as the patella, and situated in the knee-joint of a soldier, belonging to the fifty-sixth regiment. The greatest number, ever known to be contained in one articulation, is twenty-five. In most instances, we only find one.

Such preternatural substances are either attached to some part of the inside of the joint, or they are quite unconnected, and loose. It is only when they become so situated, as to interpose themselves between articular surfaces, which glide over each other in the motion of the joint, that much

inconvenience commonly results from their presence. While they continue by the side of the patella, they cause but little trouble; but, when they slip under the ligament of that bone, or between the same bone and the condyles of the femur, or between the latter bone and the head of the tibia, then they impede progression, cause considerable pain, and often excite inflammation.

As cartilaginous substances in the joints are, very often, quite unconnected with any living surface, and are moveable from one side of the articulation to the other, their formation has been regarded with some degree of curiosity. A modern author, to whom we are indebted for many excellent remarks on the diseases of the knee, has very absurdly imputed the origin of a soft description of these preternatural substances to an inspissation of the synovia. "The portion, which is in-" spissated, may act as a nucleus to at-" tract more of the surrounding matter,

" and may thus receive perpetual aug-
" mentation of bulk to an unlimited ex-
" tent." I wish, that I could as readily understand, as the author conceives his reader cannot fail to do, how this class of tumours thus increase in size. He acknowledges, that it is not an easy matter to comprehend, " by what process those of " a bony, or cartilaginous nature, which " have separated from their attachment, " can become larger, though this is as-
" serted upon very credible autho-
" rity ! !"*

When we peruse the accurate account, which Mr. Russell has given of the present disease, we cannot fail to be surprised, that he should not have perceived, how easily a surgeon may imagine a tumour to be quite detached, while it still has connexion with the inside of the joint, by means of a long slender pedicle, which

* Russell on Morbid Affections of the Knee Joint, p. 88, 89.

allows the extraneous substance a considerable latitude of motion. When we remind ourselves of the true manner, in which such preternatural cartilages grow, we shall at once see, how they may continue to enlarge, as long as they are attached to an adjacent living substance, and how they cannot possibly increase, after this connexion has been destroyed.

Considerable light was thrown upon the formation of loose cartilaginous tumours in the joints, by the penetrating genius of the late Mr. Hunter, and the surgical profession is much obliged to Mr. Home for a paper, in which he has given an able account of Mr. Hunter's ideas. It is almost too well known to need recital, that the latter immortal practitioner entertained an opinion, that a coagulum of extravasated blood might frequently be converted into an organized vascular substance, by the vessels growing into it from the neighbouring living surface. No one doubts, that the coagulating lymph has

constantly a tendency to become vascular, when effused on the surface of an inflamed membrane. I do not think it of importance to investigate here, whether a clot of red blood can be converted into an organised substance, or not: it is quite sufficient for the explanation of the present subject to know, that effused coagulating lymph is capable of this change, and that, in many instances, it then assumes a resemblance in structure to the contiguous parts.

If we take the trouble of perusing the cases, which are related by different authors, we shall find, that the formation of loose cartilaginous substances in the joints, has generally been preceded by violence done to the part, and by symptoms of inflammation. Of this sort are the cases related by Mr. Ford M. Brochier (in Desault's Journ.), Mr. Abernethy, and Mr. Hey. Latta mentions four instances, which were preceded by rheumatism. In this state, I conceive, that the capsular li-

gament, or its delicate layer, reflected over over the articular cartilages, effuses coagulating lymph, just in the same way, as we know, that the peritoneum, and peritoneal coverings of the viscera do, in consequence of inflammation in the cavity of the abdomen. Vessels very soon shoot from the adjoining living surface into a portion of the extravasated lymph, which gradually becomes converted into a structure, more or less similar to that of the nearest parts.

Mr. Russell* doubts the probability of this mode of formation, because similar cartilaginous and osseous bodies have been found in the cavities of the bursæ mucosæ, in which situation, "had similarity "of substance been a necessary conse-"quence of their attachment, these bo-"dies would not have been composed, "either of bone, or cartilage." Mr. Abernethy has written some very valuable

* P. 85.

observations on the formation of tumours, and I shall take the liberty of quoting a passage from his work, as it tends to illustrate the present disquisition. " The " structure of a tumour is sometimes like " that of the parts, near which it grows. " Those which are pendulous in the " joints are of a cartilaginous, or osseous " fabric; fatty tumours frequently form " in the midst of adipose substances, and " I have seen some tumours growing from " the palate, and having a slender attach- " ment, which, in structure, resembled " the palate. Sometimes, however, they " do not resemble in structure the parts, " from which they grow. The instance, " just mentioned, of the pendulous por- " tion of fat, growing from the perito- " neum, will serve as an instance. The " vessels, which had shot into it, made " the tumour into fat, whilst the neck " was of a fibrous and vascular structure. " I have seen osseous tumours unconnect- " ed with bone, or periosteum, and, in-

" deed, in general, the structure of a tu-
" mour is unlike that of the part, in which
" it is produced. Therefore, we seem
" warranted in concluding, that, in many
" cases, the nature of the tumour depends
" on its own action, and organization,
" and that, like the embryo, it merely re-
" ceives nourishment from the surround-
" ing parts."*

I have in my own possession a completely cartilaginous tumour, which I found enveloped in the fat, which surrounds the kidneys. Hence, it is obvious, that the coagulable part of the blood, when effused, is very prone to be converted into a living substance, and that its structure does not necessarily resemble that of the contiguous parts. If Mr. Russell should doubt the truth of the above explanation of the manner, in which loose cartilaginous substances form in the joints, he has

* Surgical Observations, containing a Classification of Tumours, &c. 1804.

equal reason to doubt, that all other tumours originate in the way, which is commonly supposed. In many instances, we could not possibly impute their origin to any such cause, as an inspissation of the synovia, and, if we were to imbibe the idea for a moment, we should reject it the next, on reflecting that mere inspissations could not be endued with vascularity, which many tumours demonstrably possess.

The foregoing statement seems more likely to be true, when we consider, that loose cartilages are usually connected with some part of the articular cavity, which does not suffer attrition, when the joint is moved. Dr. Alexander Monro, in dissecting the knee of a malefactor, found an osseous tumour, which was connected, by a ligamentous pedicle, with the exterior edge of the cartilage, covering the external cavity of the tibia.* We find, that

* Edinb. Essays, vol. iv. p. 245.

perfect quietude is essential to the growth of new vessels into coagulating lymph, and, in the case just instanced, if the exudation had taken place in such a situation in the joint, that it would soon have been disturbed in the motion of the limb, its organization would not have taken place. Also, if such cartilaginous bodies were to be usually formed on a part of the articular cavity, necessarily exposed to friction in walking, &c. then patients would experience pain from the first. But, as they do not feel inconvenience, till the tumour has become very moveable by the gradual elongation, or sudden rupture of its pedicle, and, only then, when the tumour glides into a situation, where it becomes pinched between the articular surfaces, we have a right to conclude, that almost all cartilaginous bodies of this kind grow originally in a situation, where they are not particularly exposed to disturbance in the motion of the articulation. In most instances the communication of vascularity

must, also, take place, during the tenderness of the joint, at which period, the patient naturally keeps his limb in a quiet state, in order to avoid pain. After all inflammation has subsided, the limb is again moved with freedom; the organized coagulum becomes gradually loosened by the motion, and, at length, it only remains connected with the point, to which it was originally attached, by means of a long slender pedicle, through which its nutrient vessels proceed. At last, the pedicle breaks, and the cartilaginous substance is left quite loose, like an extraneous body, in the cavity of the joint. It is easy to conceive how it is likely, in this state, to glide into situations, where it must obstruct the functions of the articulation, and cause considerable pain, and even other symptoms of inflammation.

The irritation of loose cartilages in the knee often occasions an increased quantity of fluid in the capsular ligament; but, this is not invariably the case. When the

irritation is such, as to induce a degree of heat and tenderness in the joint, there is usually a preternatural quantity of synovia: when the loose cartilages have not lately created pain and inconvenience, the synovia is commonly not more abundant, than it is in the natural state of the articulation.

CHAP. V.

Treatment of preternatural cartilaginous Substances in the Joints.

IF we except making an incision into the joint, for the purpose of extracting the cartilaginous tumours, we are not acquainted with any certain means of freeing a patient from the inconvenience of this complaint. To this plan the danger, attendant on all wounds of so large an articulation as the knee, is a very serious objection. Messrs. Middleton and Gooch endeavoured to conduct the extraneous body into a situation, where it produced no pain, and to retain it in that position, a long time, by bandages, under the idea, that the cartilaginous substance would adhere to the contiguous parts, and occasion no future trouble. No conclusion,

however, can be drawn from the cases, brought forward by these gentlemen, because they had no opportunity of seeing their patients again at the end of a reasonable length of time, and we know, that loose cartilages in the joints sometimes disappear for half a year, and then make their appearance again.

Mr. Hey, impressed with a just sense of the dangerous symptoms, which have occasionally resulted from the most simple wounds penetrating the knee-joint, very laudably tried the efficacy of a laced knee-cap, and the cases, which he has adduced, clearly demonstrate, that the benefit, thus obtained, is not temporary, at least, as long as the patient continues to wear the bandage. In one case, the method had been tried for ten years, with all the success, which the patient could desire.

Contemplating the evidence, which we have upon this subject, and the perilous symptoms, sometimes following wounds

of the knee-joint, I am decidedly of opinion, that the effect of a knee-cap, or of a compress and roller, applied over the loose cartilage, when this body is so situated as not to create pain, and to admit of being compressed, ought generally to be tried, before having recourse to excision. I say generally, because the conduct of the surgeon ought, in such cases, to be adapted to the condition, and inclination of the patient. If a man be deprived of his livelihood by not being able to use his knee; if he cannot, or will not, take the trouble of wearing a bandage; if he be urgently desirous of running the risk of the operation, after circumstances have been impartially explained to him; if a bandage should not be productive of sufficient relief; and, lastly, if excessive pain, severe inflammation of the joint, and lameness, should frequently be produced by the complaint; I think it is the duty of a surgeon to operate. It is very certain, that success has generally attended the opera-

tion; but, small as the chance is of losing the limb, and even life, in the attempt to get rid of the disease; yet, since the inconveniences of the complaint are, in most cases, very bearable, and are even capable of palliation by means of a bandage, endangering the limb and life in any degree, must seem to many persons contrary to the dictates of prudence.

I am ready to allow, with M. Brochier,* that the danger, attendant on wounds of the large joints, has always been very much exaggerated, in consequence of ancient prejudices. But, making every allowance for the influence of prejudice, a man must be very sceptical indeed, who does not consider the wound of a large joint, like that of the knee, attended with real cause for the apprehension of danger. The fatal event of the second case in this dissertation proves the veracity of the remark.

* Desault Journ. de Chirurgie, tom. ii.

At the end of Mr. Ford's case,* we read on the subject of cutting loose cartilages out of the knee: "The society "have been informed of several cases, in "which the operation has been performed; some, like this, have healed up, "without any trouble; others have been "followed with violent inflammation, fever, and death itself."

OPERATION.

Under circumstances, such as I have already noticed, a surgeon is justifiable in undertaking to remove loose cartilaginous substances from the knee-joint, by dividing the capsular ligament. We have no instance recorded, in which the complaint, when situated in any other joint,

* Medical Observations and Inquiries, vol. v. p. 334.

was sufficiently urgent to require this practice.

When we remember, that the disorder is often attended with a degree of heat and tenderness in the articulation; when we recollect, that the danger of the operation is, in a great measure, proportioned to the subsequent inflammation; and, when we also recal to mind, that, if the wound unite by the first intention a great deal of the danger is removed; we can entertain no doubt, that the advice, delivered by several respectable surgeons, to keep the patient in bed, a few days before operating, and to apply leeches and cold saturnine lotions to the knee, during the same time, is fraught with the most commendable prudence. Thus, the joint is brought into a perfectly quiet state before the incision is made. Nor should the operation be undertaken, before the bowels have been emptied by a mild saline purgative. As soon as the in-

flammatory swelling and tenderness have quite subsided, the excision may be undertaken.

As the loose piece of cartilage may commonly be moved round the joint, the surgeon can generally choose the place for making the incision. Mr. Ford, Mr. Latta, &c. have made the wound on the outside of the joint. Desault used to bring the loose cartilage to the inside of the articulation, against the attachment of the capsular ligament, and then make the incision in that situation. Mr. Abernethy has recommended bringing the loose piece of cartilage, on the outside of the internal condyle of the os femoris, and dividing the capsular ligament in that situation. Mr. Russell has recommended pushing the moveable body upward, on the inside of the thigh, in order that the incision may be as far distant, as possible, from the moving surface of the joint. Mr. Hunter, also, preferred removing these

loose bodies at the upper part of the joint, because there the bag, which contains the synovia, has less of the nature of a capsule.

For my own part, I do not believe, that this is a matter of very great importance, and, if the loose cartilage could be more easily fixed on one side of the articulation, than the other, I should recommend the incision to be made in that situation. But, the places, chosen by Desault and Mr. Abernethy, certainly seem the best for fixing the pieces of cartilage, when they can be readily brought there. The inner surface of the internal condyle is of considerable extent, and when the loose cartilage is situated upon it, there is no difficulty in confining the little tumour there, provided the assistant places the points of his fingers round it, in the manner, which Mr. Abernethy has directed.

It is of great consequence, that the as-

sistant prevent the loose cartilage from liding away from the place, where the wound is made, for, in this event, it often happens, that the extraneous substance cannot be immediately found again, so that the purpose of the operation is frustrated, and, if the capsular ligament should be divided, all the risk of the operation is to be encountered, without the smallest chance of the least benefit.

All operators have very properly adopted the plan of drawing the integuments to one side, before making the incision, so that as soon as the excision of the cartilage is achieved, the wound in the capsular ligament may become immediately covered with the skin. Thus, whatever bad effect the entrance of air might have, is, in a great measure, prevented. The piece of cartilage, being exposed by the incision, is to be immediately taken hold of with a tenaculum, and extracted.

In this sketch of the subject, I can only

add, that the external wound is to be brought accurately together, and cool saturnine lotions are to be applied. If the patient be young and robust, he ought to be bled. The limb is to be kept in an extended position, and completely motionless, and the whole treatment is to be rigorously antiphlogistic.

Though the union of the wound greatly diminishes the chance of future dangerous symptoms, experience shews, that the limb ought to be kept in a quiet state, for some days after the incision is quite healed. Mr. Bromfeild observes: " In " most of the cases, which I have seen, " where the operation had been perform- " ed, and the proper attention paid to the " situation of the limb, the patients did " well; yet I must own, that, in an in- " stance, or two, from mismanagement, " I thought they would have lost their " lives: for, as they suffered but little in " the operation, and the wound was seem-

" ingly healed in a few days, by too early
" a use of the limb, the most threatening
" symptoms came on."*

* Chirurgical Cases and Observations, vol. i. p. 335, 336.

CHAP. VI.

Of Collections of Fluid in the Capsular Ligaments.

VARIOUS fluids may accumulate in the cavities of the joints. That the synovia may collect in this manner, we have already noticed. But, besides this affection, the joints are subject to a disease, termed, *hydrops articuli,* which consists of an accumulation of water in the capsular ligament, and is very analogous to the hydrocele, or collection of an aqueous fluid in the tunica vaginalis testis.

Suppuration, also, sometimes takes place in the joints, so that the collection of fluid consists of a purulent matter, which, however, is generally blended with the synovial secretion.

In violent contusions and sprains, blood-

vessels of the joint may be ruptured, and a large quantity of blood may be extravasated in the capsular ligament.

Of all the articulations in the body, not one is so subject to hydrops articuli, as the knee. Many other joints are, beyond a doubt, more frequently the seat of suppuration in consequence of injuries; but, none are so liable to dropsical disease. The largeness and looseness of the capsular ligament may, perhaps, afford a reason for this indisputable fact.

The causes of hydrops articuli are often not discoverable. The disease, however, is very frequently preceded by severe rheumatic affections, and local violence. When the fluid is not so copious, as to produce prodigious distention of the capsule, a fluctuation is easily distinguishable. Also, if the limb be extended, so as to relax the ligament of the patella, pressing the collection of fluid causes a rising of that bone, and a kind of fulness on each side of it. The disease is commonly not at-

tended with much pain; but there is a degree of stiffness experienced in the affected joint.

Mr. Russell* has adopted the idea, that some cases of this kind are venereal, and others scrophulous; but, as he has not any good arguments in support of the opinion, it seems unnecessary to say more, than that the mere existence of hydrops articuli, in a subject, affected at the same time with syphilis, or scrophula, is no proof, that the dropsical swelling of the joint depends upon the specific disease. Here, also, I must take the liberty to remark, that if a disorder yield to mercury, unreflecting writers are extremely apt to consider this as a criterion, that the complaint is of a venereal nature. Let it be remembered, however, that mercury is one of the most powerful means of exciting the action of the absorbent vessels, and it is upon this principle, that it cures nu-

* On the morbid Affections of the Knee, p. 67.

merous diseases of different natures, without the least interference of any specific virtue. Since we see, that hydrops articuli most frequently follows rheumatism, common inflammatory affections of the knee, and fevers, which greatly debilitate the system; and since the disease mostly yields to such treatment, as is not potent enough to subdue scrophulous and venereal complaints; we have every palpable reason to believe, that, though the disorder may occur in scrophulous and venereal patients, it is always quite independent both of lues venerea, and struma. It seems to me, that the only sound conclusion to be drawn from the coexistence of hydrops articuli, and one of these latter diseases, is that the presence of venereal, or scrophulous complaints, in any particular subject, is no reason, why he should not be liable to become affected, at the same time, with another kind of disease. If we were to adopt the opposite mode of

reasoning, we might infer, that a chancre was connected with the existence of a dropsical affection of the knee, because the sore was contracted, and made its appearance, during the prevalence of the disease of the joint.

TREATMENT.

When hydrops articuli occurs during the debility, consequent to typhoid, and other fevers, the complaint can hardly be expected to get well till the strength of the constitution is, in some degree, restored. The connection, between the local and constitutional disorder, is well illustrated in a case, which Mr. Russell has related,* and in which every local remedy was tried without avail: the disease, which would not yield, as long as the debility, conse-

* P. 192.

sequent to a typhus fever, lasted, got well spontaneously, immediately the patient had regained his strength.

During eight, or nine years, I have been in the habit of frequently seeing in St. Bartholomew's Hospital, collections of aqueous fluid in the joints, and I can conscientiously assert, that I never witnessed any case, which did not ultimately yield to blistering the part, and maintaining a discharge from the blistered surface by means of the savin cerate.

When the disease is the consequence of fevers, a blister easily disperses the swelling, as soon as the patient has recovered a little of his former natural vigour. The operation of a blister may always be very materially assisted by the pressure of a bandage. Moderate exercise; frictions with flannel impregnated with the fumes of vinegar; camphorated mercurial ointment; electricity; and purging the patient with calomel, or kali acet.; are also means possessing peculiar efficacy.

As I have never seen any case, in which the circumstances seemed to justify making an opening into the joint, for the purpose of evacuating the fluid, I shall not dwell upon this head. But, excessive distention, in some neglected cases, might certainly become an urgent reason for performing such an operation. Also, if the complaint should resist all other plans of treatment, and the irritation of the tumour should greatly impair a weak constitution, the practice might be justifiable. A case, answering this description, is related by Mr. Latta, in which twelve ounces of fluid were discharged.*

SUPPURATION OF JOINTS.

When an abscess forms in the cavity of a joint, the violence of the preceding inflammation is enough to inform us of the

* System of Surgery, vol. ii. p. 490.

nature of the case. But, as abscesses are also liable to form on the outside of the capsular ligament, and we might sometimes be warranted in opening such collections, while we should not be so, were they contained in the joint itself, I think it may be useful to say a few words upon the mode of discriminating the two cases, when in the situation of the knee.

When the matter is within the joint, pressure, applied to the tumour, causes an elevation of the patella, as in hydrops articuli. Also, on placing the fingers on one side of the joint, and striking the opposite part of the tumour gently with those of the other hand, the distinct impulse of a fluid is communicated from one side of the articulation to the other. The same kind of fluctuation may be felt, on making the same experiment on any two different points, where the capsule is only covered with the integuments. An abscess of this kind has always been pre-

ceded by alarming disturbance of the constitution.

When the matter is on the outside of the joint, the tumour usually extends beyond the limits of the capsular ligament: for instance, the swelling ascends higher up the thigh, or descends lower down the leg, than the capsular ligament itself naturally reaches. The tumour is usually confined to only a part of the circumference of the knee, and there it causes a more sudden prominence, than results from an abscess in the joint. If the swelling extend around the patella, this bone seems more sunk, than in the natural state.

A FEW PRACTICAL REMARKS.

When an abscess has taken place in the vicinity of a large joint, there can be little doubt, concerning the propriety of dis-

charging the matter by an early incision. Such purulent collections, when situated about the knee, frequently lie under the femoral fascia, and, it is highly deserving of notice, that all tendinous expansions powerfully retard the progress of matter to the surface of the body. In this circumstance, the pus is apt to diffuse itself extensively on all sides, and even to make its way, by means of ulceration, into any neighbouring cavity. Hence, in order to avoid the possibility of the latter occurrence, it is best to make an opening into the abscess.

When the matter is in the joint itself, we should feel exceedingly reluctant to make an unnecessary opening. Here the degree of distention, occasioned by the abscess, ought to decide the proper line of conduct. As pus has not that power of corroding, which was attributed to it by the ancient surgeons, its mere presence in the joint will not be productive of any bad consequences. When, however, its

quantity is so large, that it forcibly distends the capsular ligament, and causes great pressure on the articular cartilages, its longer continuance in the joint may occasion the most irreparable mischief, and even death. Cases of the description, which we are now considering, are always highly perilous, and frequently oblige the patient to submit to amputation, as the only means of preserving life. The cartilages and ligaments cannot bear this state of disease, in which they are violently inflamed, and, at the same time, irritated by the pressure of the matter. They ulcerate and slough, and the articular surfaces of the bones become bare, while the matter, also, makes its way through the capsule, and presents itself under the integuments. If, under such circumstances, the state of the constitution should allow the surgeon to persevere in an attempt to save the limb, the propriety of opening the abscess is too obvious to admit of doubt. The operation should be done, so as to occasion

as little irritation as possible. A small puncture with a lancet will suffice, and it seems safer to endeavour to heal the wound by the first intention, and to repeat the operation, if circumstances should demand it, rather than to leave the wound unclosed.

If the contents of the abscess should be discharged through an ulcerated opening, the treatment is to be conducted almost on the same principles, as are applicable to all acute abscesses, and it seems unnecessary to expatiate further on the subject.

OF TUMOURS OCCASIONED BY BLOOD.

When the collection of fluid in a joint makes its appearance almost immediately after a severe sprain, or violent contusion of the part, and continues to increase gradually, for some time afterwards, there is every reason for supposing, that the prin-

cipal part of the contents must be blood. The formation of pus, and the secretion of any aqueous fluid, could not have taken place in so short a time. The extravasation of blood within the large joints is, I believe, exceedingly uncommon. Tumours composed of this fluid, and set down in systematic works, as extravasations within the capsular ligaments, are generally on the outside of the cavities of the articulations.

If blood, however, should be known to be certainly effused in the cavity of a joint, it would not be warrantable practice, to make an opening for its evacuation. Its mere presence is not likely to produce bad consequences, and, in the end, it will be absorbed. Frictions with camphorated liniments would accelerate this desirable event. If an opening were made, the coagulated state of the blood would, in many cases, render its evacuation impossible.

With respect to extravasated blood in

general, surgeons are now well aware, how unnecessary, and even injurious it is, to make an opening into almost all tumours of this kind. The opening frequently fails in procuring its discharge, and the admission of air occasions the blood to putrefy in cases, in which, under different treatment, it might have continued without producing the smallest irritation.

Mr. Hey mentions a case, in which the knee-joint was wounded, and blood insinuated itself into it; yet, though it was impossible to prevent the circumstance, no harm resulted from the extravasation, and the fluid was absorbed, without having created the least trouble.*

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* Practical Observations on Surgery. Case, p. 354.

PART II.

OF THE WHITE SWELLING OF THE KNEE, AND THE TREATMENT OF THE DISEASE.

CHAP. I.

Preliminary Remarks.

THE white swelling, or spina ventosa, as it is not unfrequently called, in imitation of the Arabian writers, Rhasis and Avicenna, is a disease in this country particularly common, and peculiarly intractable. The nations of the continent are, unquestionably, as subject as we are to chronic enlargements of the knee-joint; foreign surgeons describe numerous varieties of a disease, which many English

writers would term, *rheumatic* white swellings; but, they acknowledge, that the scrophulous species of this disorder does not commonly occur to their notice.*

Wiseman was the first, who used the term, *white swelling*, and, as Mr. Pott observes, the expression is not very unapt, because it conveys an idea of one mark of the distemper, which is, that notwith-

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* Fungus scrophulosus, terribile profectò malum, rariùs in Germania occurrit, frequentiùs in Britannia. —C. G. T. Kortum in Comment. de Vitio Scrophuloso, tom. 333. ii. Edit. 1790.

Scrophulosa materia sanè potest pessimæ indolis fungum causare, et quamquam is apud nos communiter non obtinet, scire tamen juvat, scrophulas Anglis nominatas morbum esse in illa regione ut frequentem, sic ipsi nationi peculiarem, &c.—Brambilla in Acta Acad. Medico-Chirurgicæ Vindob. tom. i. p. 20.

Petit, speaking of the spina ventosa, remarks: "*Je crois cependant qu'il faut s'en rapporter aux Anglois plus qu'à tous autres, vu qu'il en arrive très souvent dans leur pays, et encore plus dans quelques isles du nord qui leur appartient.*"—Mal. des Os, tom. ii. 359, edit. 1741.

gtanding the increase of size in the joint, the skin is not inflamed, but retains its natural colour.

It is not my intention to occupy the time of my readers, by considering the white swelling, pædarthrocaces, and spina ventosa,* as distinct varieties of disease. A few observations, however, will be offered in the course of the dissertation, for the purpose of marking more particularly the discriminating characters of the scrophulous distemper of the knee, to which I could wish, that the appellation of white swelling were confined.

The morbid enlargements of the knee are certainly sufficiently numerous, and various, to admit of some useful classification, and I cannot refrain from lamenting, that English surgeons, who are gene-

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* Many modern authors imply, by this term, a collection of matter in the medullary structure of a bone. Such a case, however, I believe, is very uncommon.

rally the foremost in the promotion of their particular science, should not attempt to arrange the diseases, to which I allude, in a better manner, than they now are. This, however, would form a work of considerable magnitude, and the plan is quite incompatible with the usual extent of a dissertation. The only distinctions, which systematic writers have drawn, are into rheumatic and scrophulous white swellings, the latter kind of which tumours, they further distinguish, into such as primarily affect the bones, and then the ligaments and soft parts, and into others, which first interest the ligaments and soft parts, and, at length, affect the bones.

These views of the subject have some foundation; but, they are, by no means, sufficiently comprehensive; and the propriety of denominating some of the affections *rheumatic* might be questioned by pathologists, whom we could not, in this

instance, upbraid with unseasonable scepticism.

If I should be asked the reason, why I am dissatisfied with the few distinctions, introduced into the subject, my answer is, that, I frequently see more numerous forms of such disease in the knee, than are distinguished by names, or than ought to be arranged under the head of white swellings. I see some morbid joints, in which the bones, ligaments, and cartilages, can hardly be said to be materially diseased. The whole of the distemper seems to consist in the deposition of a glutinous lymph, which adheres to the most subtile laminæ of the cellular substance, and to the surface of the tendons, ligaments, and capsule, of the articulation. Brambilla has named this disease, *fungus articulationis*, and he says, that it is more common in Germany, than in any other European country.* But, such a

* Acta Acad. Josephin. Vindob. P. 1.

malady is certainly known in Great Britain, and most surgeons would call the complaint a white swelling.

I see other morbid affections of the knee, in which the bones are not at all diseased, though the ligaments and cartilages have suffered considerable alterations; though the joint appears to the surgeon to be enormously enlarged, and the malady has even been so severe, as to require amputation.

I see another frequent form of disease in this articulation, in which kind of affection the ligaments, cartilages, and bones, are not the parts principally diseased; in which disorder the joint is greatly enlarged, and the bulk of the swelling arises from a morbid condition of parts, on the outside of the capsular ligament; and, in which case, the disease does not consist of a thick kind of lymph, diffused throughout the structure of the parts on the outside of the joint, but, of a morbid change, in which such parts become, at once, enlarged, thickened, and bereft of all their

original firmness. This ma'ady, also, is oftentimes so terrible, as to render amputation of the limb indispensable.

There are other cases, in which the bones are softened in their texture, while the ligaments are distempered, the cartilages absorbed, and the bones, in an advanced stage of the disease, carious.

In some instances, there are spinous, angular, depositions of osseous matter upon the surface of the diseased bones; while, in the neighbourhood of the articular part of the same bones, there are deep excavations in consequence of caries.

I might enumerate several other varieties, not deduced from the morbid anatomy of the joints, but from the difference in the symptoms and progress of the complaint, as well as from the particular constitutions, in which such forms of disease occur. Were I to proceed further, at present, I should not leave room for the discussion of such points, as I particularly wish to comprehend in this production.

At some future opportunity, perhaps, I may renew the consideration of this important part of the subject: at all events, I confidently hope, that the few suggestions, here made, may awake the attention of others, and be of some little use to any succeeding writer, who may attempt to discriminate the different natures of the various morbid enlargements of the knee.

Caries of the bones has been mentioned by the majority of writers, as necessarily attendant on white swellings. Some limitation, however, ought undoubtedly to be made to the remark.

If the term, *caries*, be meant to denote that morbid process in a bone, which is analogous to ulceration of the soft parts, surgeons are not warranted in applying the expression to the true scrophulous affection of the head of the tibia. Whether the disorder first originate in the bones, or ligaments of the knee, it is not till after the disease has made considerable progress, and actually destroyed the car-

tilaginous coverings of the articular surfaces of the bones, that we find the tibia and femur affected with any morbid change, at all analogous to caries.

The scrophulous disease of the bones is most prone to attack such as are soft, and of a spongy texture: so is caries:—but, then, the effects of the former are widely different from those of the latter. The peculiar alterations, which the scrophulous affection first produces, are a partial absorption of the earthy particles of the diseased bone, and a deposition of a softish matter into the interstices of its structure. There is no breach whatever, occasioned in the seat of the disease by this change.

On the other hand, in caries, as the osseous particles are absorbed, or crumble away, no effort is made to repair the breach of continuity, and an excavation is necessarily the consequence.

Such is the first, and most common morbid change, which the head of the ti-

bia undergoes, in the disorder, implied by the scrophulous white swelling. In several strumous joints, which I have dissected, I have also found, that a morbid deposition of a cheesy kind of substance, blended with phosphate of lime, took place on the outside of the heads of the diseased bones. I have pieces of scrophulous bones in my possession, on which these depositions, before they were considerably destroyed by maceration, had the appearance of opaque crystallizations. I have seen similar specimens, in Mr. Abernethy's anatomical museum.

The caries, which attends a more advanced stage of the white swelling, follows the ulceration, and destruction of the articular cartilages, or accompanies the formation of abscesses around the articulation. In these cases, we find, on dissection, that a part of the bone is rough, and where this roughness is situated, a chasm, more, or less, extensive and deep, has been formed in the substance of the bone.

I have wished to be particular in exposing the absurdity of confounding the scrophulous alteration of the bones with caries, because the matter seems to me not to have been hitherto properly explained by any author.

By caries, however, several writers seem to imply the mortification of part of a bone. This misapplication of the term is exceedingly censurable; first, because it is meant to signify what very rarely happens in scrophulous diseases of the joints, or in any species of white swelling whatever; and, secondly, because the sentiment, which it now conveys, has led to very unwarrantable practices, with a view of promoting an exfoliation, which was judged to be inevitable.

It is observed by a gentleman, who has written a very good, practical, treatise on the present subject, that, "in the carious "stage of this disease, it has been said, "that to expedite a cure, exfoliation "should be promoted; but experience

" tells us, that exfoliation rarely occurs;
" and when the complaint does not seem
" to require it, may we not infer, that it
" should not be encouraged? It is very
" probable, that if means had not for-
" merly been used to produce this effect,
" it would have occurred as seldom then,
" as we now find to be the case."*

From the manner, in which I may have expressed myself, I should be sorry to be misunderstood. I do not mean to deny, that the articular parts of the bones are not very frequently found carious in this disease; but, only to assert, that caries is so far from constituting an essential feature of the disorder, that it rarely occurs, until the cartilages of the joint have been more or less destroyed; (for, after this it always takes place) and that the morbid alteration, previously observable in the

* Practical Observations on the Disease of the Joints, commonly called, White Swelling. By B. Crowther. P. 6—7.

bones, is widely different from a true caries.

The circumstance of the bones being sometimes quite free from disease, even when the knee seems of considerable magnitude, must greatly strengthen the tenor of the above observations. In this instance, the ravages of the disorder particularly affect the ligaments of the joints, and the fat and cellular substance on the outside of the capsule. Mr. Russell * diligently describes, how much the soft parts contribute to the swelling in the disease. Speaking of the appearances on dissection, he observes: "the great mass of the "swelling appears to arise from an affec- "tion of the parts, exterior to the cavity "of the joint, and which, besides an en- "largement in size, seem also to have "undergone a material change in struc- "ture. There is a larger, than natural, "proportion of a viscid fluid, intermixed

* P. 30.

" with the cellular substance; and the " cellular substance itself has become " thicker, softer, and of a less firm con- " sistence, than in a state of health."*

Mr. Crowther says: " I have shewn to " my medical friends some diseased joints, " of which upon examination it was im- " possible to decide with accuracy, as to " the state of the parts: some of the cases, " they, as well as myself, considered only " as an enlargement of the bone; but, af- " ter the application of leeches, and an " artificial drain, derived from the inte- " guments, covering the joint, there did " not appear the smallest enlargement of " the heads of the bones."

I have seen many amputated joints dissected, in which it was doubtful, whether the cartilages were in the least affected, while the heads of the bones were not more softened, than in the natural state. Still the operation was rendered necessary

* P. 15.

by the hectical condition of the patients. In these instances, the whole disease seemed to consist in such an alteration of the soft parts, surrounding the articulation, as is described by Mr. Russell, together with a thickened, and softened state of the capsular, and other ligaments, and a collection of a purulent, shining coagulated matter in the cavity of the joint.

Mr. Russell appears to adopt the opinion, that the disease always commences in the ligaments and membranes of the articulation, and he even asserts, that he never heard, or knew of an instance, in which the tibia was enlarged from an attack of white swelling.* It was this declaration, made by a surgeon of experience, which first called my attention to this point, and, though it was long after my first perusal of Mr. Russell's book, that I formed a decided opinion on the matter, yet candour obliges me to state, that I de-

* P. 37.

rived the original intimation from the above mentioned publication.

Many surgeons, I feel certain, will be disposed to grant Mr. Russell a very small portion of praise on this account; and, indeed, his judgment might be criticised for mentioning so lightly a fact, which is highly deserving of the most extensive publicity. When we consider, that numerous joints are amputated, sooner than they otherwise would be, in consequence of the surgeon's firm persuasion, that the bones are enormously enlarged, we must acknowledge, that the removal of this erroneous opinion ought to be effected in such a manner, as will leave a strong and lasting impression on the minds of the great mass of surgical practitioners. The slight allusion, which Mr. Russell has made to the subject, is little calculated to excite general attention, and, even at present, there are very few surgeons, who do not place the most implicit faith in the

expansion of the heads of bones, in cases of white swellings.

It was in my *First Lines of the Practice of Surgery*, that the doctrine of the enlargement of the heads of the bones was first publicly opposed with any degree of force. The opposition is still more vigorously maintained in this dissertation.

Here I cannot deny myself the pleasure of giving praise to my friend Mr. Lawrence, a gentleman, whose heart is enriched with the most generous qualities, and whose mind is adorned with every requisite for forming a truly great man. His penetration had detected the error, into which surgeons had fallen, respecting the expansion of the heads of the bones, quite independently of any writer whatsoever; and the frequent conversations, which I had with him upon this subject, tended, in a very powerful manner, to dispel the few last doubts, which I entertained.

I must candidly confess, that, deceived

by the feel of many diseased joints, and influenced by general opinion, I once imbibed the idea, that there is oftentimes a regular expansion of the heads of scrophulous bones. But, excepting an enlargement, which arises from the deposition of osseous matter on the outside of the heads of the tibia, ulna, &c. so as to form sharp, angular, scabrous projections on them, and which alteration cannot be called an expansion of those bones, I have never been an eye-witness of the head of a bone being of preternaturally large dimensions, in consequence of the disease, known by the name of white swelling. I have frequently been in the habit of inspecting the state of the numerous diseased joints, which are annually amputated in St. Bartholomew's Hospital, and, though I have, for several years, been attentive to this point, my searches after a really enlarged scrophulous bone have always been in vain. The change, which the head of the tibia undergoes in many

cases, is first a partial absorption of the phosphate of lime throughout its texture, while a soft kind of matter seems to be secreted into its substance. In a more advanced stage, and, indeed, in that stage, which most frequently takes place, before the joint is amputated, the head of the bone has deep excavations formed in it, in consequence of caries, and its structure is now so thoroughly distempered, and softened, that when any instrument is pushed against the carious part, it easily penetrates deeply into the bone.

A cursory examination of a diseased joint, even when it is cut open, will not suffice to shew, that the bones are not preternaturally enlarged. I dissected one this morning,* and, on first looking at the parts, the swelling had every appearance of arising from an actual expansion of the bones. An intelligent medical friend, who was present, felt the ends of the tibia and

* November 12, 1806.

fibula, after the integuments were removed, and coincided with me, that the feel, which was even now communicated, seemed to be caused by a real swelling of the bones themselves. But, on cleaning them more, the enlargement was demonstrated to arise entirely from a thickening of parts on the outside of the bones.

However, from all that I have seen of the disorder under consideration, I am led to believe, that surgeons have good reason for supposing, that some white swellings commence in the ligaments, and afterwards affect the bones; while others begin in the spongy texture of the bones, and afterwards affect the ligaments. At this opportunity, I cannot refrain from remarking, that as the ligaments are almost invariably found distempered, and the bones are not so, we must infer, that, in the majority of instances, the disease commences in the former parts.

The morbid enlargement of scrophulous joints is always made to appear greater,

than it really is, by the emaciation of the limb, both above and below, the disease. This fact is so obvious, that I need not detain my readers with further observations on the subject.

From such preliminary remarks, I proceed to treat of the symptoms of white swellings.

CHAP. II.

An Account of the Symptoms, and Progress of White Swellings.

THE large joints, such as the knee, ankle, wrist, and elbow, are most exposed to the attack of this direful malady. In the first stages of the disease, the skin is not at all altered in colour. Sometimes, the swelling yields in a certain degree to pressure; but, it never pits, and is generally sufficiently firm to make an uninformed examiner believe, that the bones contribute to the tumour. In some cases, the pain is vehement from the very first, while, in other instances, there is hardly any pain in the incipient stage of the affection. But, whatever the degree of pain may be, it particularly affects only one part of the articulation, and this is usually its centre. In some cases, the pain seems to be situat-

ed in the head of the tibia; but, whereso-ever it occurs, I have always observed, that it is always confined to one particular spot. Sometimes it is incessant; at other times, it intermits; and, in a few cases, it recurs so regularly, at stated times, that it deserves to be called periodical. When the patient is warm, and, especially, when he is heated in bed, he commonly seems to experience an exasperation of the pain.

In most cases, the tumour is, at first, very trivial, or there is even no swelling at all, although the pain be very considerable. A fulness is first observed to occupy the little hollows, which are naturally situated on each side of the patella. This prominence augments, and the whole articulation soon becomes every where palpably augmented in circumference.

As the patient cannot bear the weight of his body on the affected limb, without a considerable increase of pain, he gets into the habit of only touching the ground

with his toes, and thus the knee is generally kept a little bent, and the power of completely extending the limb again is soon lost. In advanced cases, the knee is always found in a permanent state of flexion. It is observed, that, in this disorder, the swelling is always preceded by pain; but, the interval between the first occurrence of the two affections, is very various in different cases.

At length, the diseased joint attains an enormous size; but, the skin is not materially affected. The only changes, observable in it, are the appearance of varicose veins, and a shining smoothness. The latter circumstance seems to be owing to the distention, which obliterates the natural wrinkles of the integuments. The skin, also, cannot now be pinched up into a fold, as it could in the early state of the disorder.

When the distemper has proceeded further, abscesses generally form around the joint, and their contents are, in time,

usually discharged through ulcerated openings. These ulcerations sometimes heal, and other similar abscesses take place. The period, at which such collections of matter occur, after the commencement of the disease, is extremely various in different cases; in some, such abscesses form in a few months, after the joint has become affected; in others, they do not take place for many years.

The patient's health, in the mean time, becomes gradually impaired, in consequence of the local disease. His appetite fails; he cannot sleep at night; his pulse is small and frequent; he has profuse perspirations; and his bowels are not unfrequently very much disordered with an obstinate, and debilitating dirrhœa. Under such symptoms, dissolution soon follows, unless the constitution be speedily freed from the irritation of the local malady. In different subjects, however, the progress of the disease, and its effects on the constitution, are very different, in regard to the quick-

ness, with which they take place. In some instances, the swelling of the knee, and the derangement of the health, do not arrive at a considerable pitch, till several years have expired, after the first attack of the complaint. In other examples, the disease of the joint acquires an immense size, and falls into a state of suppuration, in the course of half a year, at the end of which short time, the patient's strength, also, may even be quite exhausted by hectic complaints.

Such white swellings, as have been termed, *rheumatic,* are certainly very distinct diseases from the true scrophulous affection of the large joints. In the former, the pain is said never to occur without some swelling being evident, nor does the acuteness of the pain subside, in proportion as the tumefaction increases. Genuine white swellings, on the contrary, are always preceded by pain, which is usually not so acute after the swelling appears, as it was before.

I believe, that all those instances, in which the bones are found not at all altered in texture, and the whole mass of disease seems to be confined to the soft parts, are not scrophulous white swellings. In rheumatic cases of this kind, the pain is not confined to a particular point; but, extends over the whole joint. If a man live, till the age of five and twenty, quite free from every symptom of scrophula, I believe, he can never, after this period, become first affected with a scrophulous disease of the knee. I believe, also, that all cases, in which the head of the tibia loses a good deal of its natural firmness, in consequence of a morbid alteration, which I have already endeavoured to describe, are scrophulous cases.

The lymphatic glands in the groin are often enlarged, in consequence of the affection of the knee; but, I never saw this secondary complaint prove permanently troublesome. Mr. Russell makes a similar observation.

The head of the tibia seems to suffer considerably more, than the condyles of the femur. I have dissected several scrophulous knee-joints, in which the articular surface of the femur had not a single rough, or carious point, while that of the tibia had suffered considerably from caries all round its circumference. The decay of the cartilages of the joints is observed to commence at their edges, and to extend gradually towards their centre, and this mischief is always much more advanced on the tibia, than on the os femoris.

When white swellings commence in the bones, there is great reason to believe, that, in knee cases, the tibia is the bone, in which the disease has its origin.

In young subjects, the distemper, sometimes, though very rarely, produces such a complete destruction of all the ligaments of the knee, that the bones of the leg become drawn up the posterior part of the thigh bone, by the strong action of the flexor muscles of the leg. I have been

informed by Mr. Lawrence, that, he saw in the country, last summer, a child with a scrophulous knee joint, which had a very singular appearance, in consequence of the great retraction of the bones of the leg in the above manner. Mr. Langstaff lately shewed me a patient with a diseased knee, whose leg could be bent to each side, for a very considerable distance, both when the knee was extended, and bent. This was certainly not a scrophulous case; but, the above extraordinary looseness of the joint could only result from some affection of the ligaments.

In an advanced stage of white swellings, I believe, that a partial luxation, consisting of a retraction of the heads of the tibia and fibula upwards, towards the tuberosity of the ischium, is not very uncommon. I have never seen any case, in which the head of the tibia was completely separated from the body of the bone, in the way, in which it is said sometimes to be in young subjects.

CHAP. III.

Of the Causes of the White Swelling, and the Grounds, on which it is regarded as a scrophulous Disease.

I AM one of those persons, who believe, that every subject of a scrophulous habit is predisposed to certain forms of disease in the joints, and it is to these forms alone, that I shall allude, when I make use of the term, white swelling, in the present chapter.

In the constitution, which I have just mentioned, every cause, which is capable of producing inflammation, or any morbid, and irritable state of the knee-joint, is very likely to be productive of such mischief, as may terminate in the severe disease, of which we are now treating. A cold stream of air, blowing against the

neck of a scrophulous subject, or exposure to damp, will often produce an inflammation, and enlargement, of the lymphatic glands, in the vicinity of the basis, and angle of the jaw, and this affection may terminate in a scrophulous disease of those glandular parts.

It is also a fact, which Mr. Burns,* of Glasgow, has accurately noticed, that causes, which would scarcely induce inflammation in a healthy person, may induce a local disease, and inflammation, in a scrophulous habit. Hence, an enlargement of the glands of the neck, is more apt to occur in such a temperament, than in a person of a sound constitution.

These observations are, also, applicable to the knee-joint. External violence, exposure to damp and cold, will much more readily produce irritation in that articulation, when the patient is scrophulous, than

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* Dissertations on Inflammation, vol. ii. p. 341—351.

when he is of a sound habit of body. Even when such irritation is produced, in the knee of a healthy person, by these causes, it is more easy of cure, and betrays no tendency to specific morbid action. But, when the knee-joint is at all irritated, in a scrophulous subject, that morbid affection, which constitutes the white swelling, is very likely to ensue. Thus, rheumatic complaints of the knee often become the exciting cause of scrophulous disease in the articulation, when the constitution is, what is called, scrophulous.

From the preceding statement, we may easily discern, why white swellings, in a great number of instances, appear to originate without any known cause. Mankind are little inclined to suspect, that going out in the damp, exposing themselves to cold, or meeting with a trivial contusion of the knee, some weeks before any serious uneasiness is felt in the joint, can have any connection with the origin of the complaint.

Such occurrences are frequently not even remembered. In young subjects, who are certainly more liable, than adults, to white swellings, we cannot wonder, that no reason can generally be assigned for the commencement of the disorder. They are frequently mere infants, and the slight injuries, which larger children meet with in play, are no sooner received, than forgotten.

Hitherto, I have assumed the point, that the white swelling is a scrophulous disease, and it remains for me to notice the arguments, on which this doctrine is founded. We shall soon perceive, that the most weighty reasons, the opinions of the most accurate observers, and the evidence of daily experience, combine to establish the theory. Wiseman* calls the spina ventosa a species of scrophula,, and remarks, that infants, and children, are generally the subject of this disease. Se-

* Book iv. chap. 4.

merinus* observes, that this disorder is almost peculiar to youth. Petrus de Marchettis† has seen both men and women afflicted with the disease, as late as the age of five and twenty; but, not afterwards, unless they had suffered from it before that period, and had not been cured. R. Lowerus, also, maintains, that adults never become affected with the malady, unless they have been attacked by it in their youth. Chun, however, who informs us, (in a dissertation on pædarthrocaces) of the opinion, entertained by Lowerus, adduces some cases to shew, that the disease may, now and then, occur, for the first time, in persons of advanced age. But, in the present enlightened state of surgical knowledge, we may doubt, that such cases were truly scrophulous white swellings. At all events, the first occurrence of the latter kind of tumours, like

* De Pædarthrocace, cap. xii. and xvii.

† Obs. Med. Chir. rarior. p. 118.

the first occurrence of scrophula, in adults older, than twenty-five, is equally rare. I have several times asserted, also, that every diseased knee-joint is not to be indiscriminately set down, as a scrophulous disease.

The white swelling, like other scrophulous affections, seems very often to be an hereditary disease. Foreign writers, among whom I need only mention the celebrated Petit and Brambilla, have very justly remarked, that the English, who are peculiarly liable to scrophula, are, also, particularly subject to white swelling. But, what occasion is there for further evidence on this point? Daily experience informs us, that young persons, affected with this disease, are, for the most part, either manifestly scrophulous, or have formerly been so. Many have, at the same time, enlarged lymphatic glands in the neck, or other situations; and many are known to be descended from parents, who had scrophulous diseases. Mr. Crowther informs

us: "Most of the patients, whom I have "seen afflicted with this disorder, were of "a strumous habit, and descended from "parents of a similar constitution. In "some cases, it has also appeared, that "many of their families have been de- "stroyed by phthisis pulmonalis."*

The fine skin, the tumid, pale, unhealthy countenance; the delicate complexion; the light blue eyes; and the swelling of the upper lip; those striking appearances, so indicative of a scrophulous habit, are, also, frequently observable in persons affected with white swellings. But, what I consider as one of the strongest tests of the disorder being of a scrophulous nature, is the coagulated, shining matter, resembling the white of an egg, so frequently found, not only in the cavity of the morbid articulation, but, also, on the outside of the capsular ligament, particularly in the abscesses, which form in an

* Page 4.

advanced stage of the disease. I believe, that such shining, flaky, coagulated matter is peculiar to scrophulous affections. We frequently find flakes of this kind of substance, blended with the pus, discharged from lumbar abscesses, and it almost always constitutes a large portion of the matter, which collects in the suppurated state of scrophulous lymphatic glands in the neck. If this kind of matter be a criterion of scrophulous disease, the species of white swelling, in which such a secretion takes place, without any softening of the heads of the bones, is also to be considered, as a strumous affection.

CHAP. IV.

Treatment of White Swellings.

BEFORE entering upon this important part of the subject, I think it of great consequence to state, that white swellings, whether of that description, which has been termed, rheumatic, or of that kind, which is denominated, scrophulous, present themselves in practice in two very different stages: in one, there is a degree of acute inflammation about the joint; in the other the affection is altogether a chronic one.

In the incipient, and, indeed, very often, in the more advanced, period of the disorder, it is exceedingly difficult to persuade patients to keep the joint entirely at rest. Imprudent attempts to walk too frequently produce a state of the affected joint, in

which the skin is tender when touched, and seems to the fingers of an examiner hotter, than the integuments of the opposite knee. Besides, we have already noticed, that common inflammation oftentimes becomes the exciting cause of most obstinate diseases in the articulation.

In the ordinary state of white swellings, the skin does not appear to be hotter, than that of a healthy knee, and the integuments can be handled, without producing any particular uneasiness to the patient: in short, we have every reason to regard the malady as one of a chronic nature.

When a surgeon is called to a case, in which there is evidently acute inflammation present, there can be no doubt, that topical bleeding, and cold saturnine lotions, are means, which may be eminently serviceable, and, what is implied by the phrase, antiphlogistic treatment, may now be advantageously employed. But, such are my feelings upon this matter, that I cannot withhold my strongest censure from

those practitioners, who lose weeks and months, in the adoption of such treatment. The plan is truly beneficial, and scientific, as long as the integuments are hot and tender, the joint is affected with very acute and general pain, and the patient is indisposed with the usual symptoms of inflammatory fever. But, no sooner is this stage past, than such treatment becomes ridiculously inert, and by preventing the employment of really efficacious measures, it may even be considered as, in some degree, conducive to the increase of a most terrible disease.

Having treated of inflammation in the joints, in the first part of the dissertation, I feel it quite superfluous to say any thing here, concerning such means, as are adapted to remove the unusual tenderness and heat of the skin, sometimes attendant on white swellings. The best plan of arresting the morbid process in the bones, ligaments, cartilages, and soft parts, surrounding the articulation, and the most success-

ful method of diminishing the chronic enlargement of the joint, are subjects much more worthy of our present investigation.

If we consult the writings of Hippocrates, Celsus, Rhases, Ætius, Hieron. Fabricius, &c. and compare their remarks with the inculcations, contained in modern books, we shall soon discover, that the practice, applied to the morbid affections of the joints, by the very best practitioners of the present day, is not materially different from what was employed by our predecessors, many centuries ago, in similar cases. As Mr. Crowther accurately remarks, we learn from the ancients, that "they used local and general "blood-letting, the actual and potential "cautery, with vesicating and stimulating applications to the skin. They "further maintained, that sores, produced by these means, should have "their discharge promoted, and continued, for a considerable length of time."

Some mild cases of white swelling, but

not scrophulous ones, I should conceive, may be cured by using topical applications, composed of strong astringents of the mineral and vegetable kingdom. Mr. Russell recommends a decoction of oak bark, containing alum.

There are other instances, in which the employment of sea water, as a lotion to the knee, is certainly beneficial. I have seen several cases, in which the enlargement of the joint has been diminished by this application; but, I cannot say, that I have ever known one example, in which a cure was accomplished by it. Sea air, and sea bathing, together, undoubtedly have very powerful effects on scrophulous affections in general, and, most particularly so, on such diseases, when situated in the joints, and, I believe, few will be inclined to question this irrefragable truth, that, residing in a maritime situation, and bathing in the sea, have immense influence in checking the progress of scrophulous diseases of the joints. However, though

this favourable opinion ought to be entertained of sea air and bathing, unitedly, yet, as I have seen sea water alone very extensively used as a lotion for white swellings, in this metropolis, and, upon the whole, have seen only very little benefit result from the practice, I should be guilty of perversion, were I to say a great deal in its commendation. Also, with respect to residing on the sea coast, and bathing, as means to be tried together, my own individual opinion is, that such a plan ought only to be valued, as an auxiliary one, to be pursued, at the same time, that other more potent measures, hereafter to be noticed, are put in execution.

I am sorry that the observations which I have had opportunities of making, are not much in favour of electricity, as a means of curing white swellings. In a few instances, it is true, it has appeared to do good; in a few others, however, according to my judgment, it appeared rather to exasperate, than diminish the disease. In

by far the majority of cases, in which I have seen electricity tried, the effects were so insignificant, that it was difficult to pronounce, whether they were of a favourable, or an unfavourable nature. The greatest evil of employing inert means, is the false confidence excited, which only leads the surgeon to postpone the adoption of such measures, as can alone be useful, and, what is the more to be regretted, effectually useful, in most cases, only in the less advanced stages of the malady.

With regard to fomentations and poultices, I consider them as perfectly inert, and quite unworthy of the praises, which some writers bestow on them. *Venienti occurrite morbo* is a maxim, which I should particularly wish to inculcate in this branch of surgery. Whoever does nothing, does harm, because he is allowing an insidious disease to gain ground; and, as inert measures create a semblance of something being done, they ought to be

most strongly reprobated, as, in fact, preventing other really proper steps from being pursued. Humanity in the practice of surgery does not consist so much in withholding strong and vigorous measures, as in boldly deciding to employ them, the very first moment, when they are indicated. Let this be an axiom, which every lecturer should instil into the minds of his pupils; let the sentiment be constantly alive in every one, who professes the noble art of surgery. Then, we should no longer behold the instruments of surgery, in the hands of men, whose indecision paralyses whatever knowledge they possess; then we should see the due degree of benefit accrue to the world, that degree, which the present cultivated state of surgical science ought to afford.

I am aware, that the French surgeons have extolled warm stupes, and, indeed, they support their commendations on the solid basis of stubborn facts. But, it is to be noticed, that the mildness of white

swellings on the continent, will not allow us to consider them as a malady, at all like what we find them to be in this island, and, consequently, it would be absurd to take French practice, as a model for English practitioners.

The only method of treatment, which my own personal experience enables me strongly to recommend, consists in keeping up a discharge from the surface of the diseased joint. The opportunities, which I have had of observing the effects of blisters, and caustic issues, rather incline me, however, to prefer the former to the latter. I have seen great good derived from both; but, more from blisters, than from the other kind of issue. There are instances, in which I should employ vesicating applications; there are others, in which I should prefer making an eschar with caustic. To keep a blister open, a very long time, with the savin cerate, is generally attended with a good deal of pain to the patient, and trouble to the

surgeon. The cuticle is secreted so rapidly on the surface of the cutis, that it becomes necessary to scrape the white matter off the blistered surface very frequently, in order to keep it from healing. This operation always gives infinite pain, which is the more distressing, because, it is to be so often reiterated.

When a blister is preferred it is best to apply a large one. Some practitioners recommend blistering first one side of the joint, and then the other, alternately, for a considerable time. Thus, while one blister is healing, another is forming, and the method is said to be attended with considerable success. I cannot say, that I have seen this plan followed up, as it ought to have been; but, from all I have seen, and heard, I am induced to entertain a very favourable opinion of such practice, and shall certainly very soon take an opportunity of giving it a fair trial.

I have only to repeat, that, in my opinion, a large blistered surface, properly

kept open, by means of the savin cerate, has some advantage, in point of efficacy, over issues made with caustic, and kept open with pea-, or beans.

The plan of dressing blisters with the savin ointment was first introduced into practice by Mr. Crowther, and he is entitled to the whole of the honour, attached to this improvement. The former method of dressing excoriated surfaces with the ointment of cantharides, was often productive of very troublesome stranguries, and retentions of urine, complaints, which never occur from the external employment of savin.

With respect to caustic issues, they are, at first, even more painful, than blisters; but, they afterwards become more like indolent sores, and are more easily kept open for a length of time, than a blister. They are usually made on each side of the diseased joint, and their size, for an adult, is commonly about the same as that of a half crown. I need not detain my readers with

an account of the manner of making them, and keeping them open, such circumstances being familiarly known to every novice, at all initiated in the surgical profession.

It has been a disputed point, whether blisters and issues produce benefit upon the principle of counter-irritation, or, in consequence of the discharge, which they occasion. For my own part, I am inclined to believe, that they act beneficially in both ways. Rubefacients are certainly efficacious in exciting the action of the absorbents, and, probably, also, in modifying the action of the vessels in diseased parts. I have not mentioned them, in this dissertation, because, I am decidedly of opinion, that, whenever such applications might be, in some degree, serviceable, in cases of white swelling, a blister would be so in a still greater degree. Rubefacients must obviously act altogether on the principle of counter-irritation. A blister operates in the same way, but, much more

powerfully; and, if efficacy also result, and I firmly believe, that it does result, from maintaining a copious discharge from the vicinity of the disease, vesicating applications must always be preferable to mere rubefacient ones.

With regard to constitutional remedies, in cases of white swellings, little is to be said. Many diseased joints are undoubtedly connected with a kind of constitution, which we call scrophulous. In the present state of medical science, we are not acquainted with any medicine, that has any certain power of altering this kind of temperament. It seems rational, however, to combine such general remedies, as have been known to be serviceable in other strumous diseases, with the local treatment already noticed. Hectic symptoms are such, as we commonly have to palliate, in the cases under consideration. When the stomach can bear bark, this medicine should be given, conjoined with the aromatic confection. I have seen so much comfort,

derived from the prudent administration of opium to patients, afflicted with diseased joints, that I cannot refrain from strongly praising it, and declaring, that the objection, made to its employment, on the ground, that it increases perspiration, seems to me exceedingly frivolous, when I called to mind the great good, which this excellent medicine produces, in keeping off a debilitating diarrhœa, alleviating pain, and procuring sleep.

Nothing is more serviceable, in all cases of diseased joints, than keeping the morbid parts perfectly motionless. Foolish attempts to walk frequently frustrate the most scientific plan of treatment. Some surgeons are in the habit of confining the diseased knee in splints, and they impute a good deal of benefit to this plan. I am very much inclined to think well of the method; but, I can say nothing particular in its recommendation from my own personal experience. We see, that one constant effect of disease in the knee, is to pro-

duce a contraction, or permanently bent state of the articulation. This might, undoubtedly, be prevented by splints, and, by altering the position of the joint, as well as by keeping it completely motionless, some beneficial change might also be made, in regard to the malady itself.

Here I shall take the liberty of laying before my readers four original cases of diseased joints, which were materially benefited by maintaining a discharge from blisters, or issues.

CASE III.

Hannah Hussey, when eleven years of age, and a month after she had recovered from the small pox, was attacked with pain and swelling of the right knee. Various lotions and plasters were made use of, but without any good effect, the disease still continuing to increase. In the month of July, 1803, two years after the

patient first complained, the whole joint had become prodigiously swollen, under the inert treatment, and even neglectful plan, which had hitherto been adopted.

At this time, the integuments were hot and tender to the touch; a fluctuation was perceptible in the anterior part of the tumour, and the condyles of the femur communicated a deceitful sensation, when handled, as if they were really very much enlarged. On moving the joint, a grating noise could be heard, and considerable pain was experienced under the knee-pan, and in the centre of the articulation. The patient's health was, also, much impaired.

Leeches were applied to the joint, and the saturnine lotion was continually made use of. The leeches were repeated three times, and, at the expiration of a week, the heat, acute pain, and tension, had considerably abated. A blister was now put on each side of the joint, and dressed with the savin cerate. Tonic medicines

were, at the same time, internally administered.

A copious discharge was, in this manner, kept up for three months, during which time, all the symptoms gradually diminished.

As there was some difficulty in keeping up a sufficient discharge from the blistered surfaces, in consequence of inattention on the part of the patient, and her friends, the blisters were now allowed to heal, and issues were made with caustic in their stead. A discharge was continually kept up from these, for five months.

At the end of this time, the pain in the articulation was entirely removed; the whole collection of fluid in the capsular ligament absorbed; and the girl's health perfectly restored.

She was able to walk, a considerable distance, without much inconvenience, although the joint was still somewhat enlarged.

In this amended state, she continued,

for three months, when her health began to decline again; fluid was accumulating in the joint; and the pain was returning. Blisters, and the savin cerate, were once more employed, and tonic medicines administered. This plan was unremittingly pursued, for three months, when the disease of the joint seemed to be completely stopped. As the knee had a tendency to contract, it was confined in as straight a position as possible, by means of a splint. Sufficient attention, however, was not paid to this method, and a degree of contraction took place.

The joint now remains somewhat larger, less flexible, and strong, than the other; but, the pain is entirely removed, the morbid affection has ceased, and the event of the case may be deemed a very successful one.

CASE IV.

Elizabeth Goddard, fourteen years of age, applied for surgical assistance, on account of pain, and enlargement of the ankle-joint. The complaint had existed, in a slighter degree, for three years, and had originated in consequence of an external injury. Various applications had been made use of, without benefit.

The articulation was now very much swollen, particularly about the internal malleolus. The patient was equally incapable of using her ankle, and bearing any weight upon it.

As there was no appearance of active inflammation, a blister was immediately applied to each side of the joint, and afterwards dressed with the savin cerate. A copious discharge was thus maintained, for five months. Very soon after the ap-

plication of the blisters, a material change for the better took place, and when the excoriated surfaces were healed, the fulness and pain of the joint had subsided, and scarcely the smallest degree of enlargement could be perceived. A trivial stiffness, and weakness, alone remained.

CASE V.

John Talmage, thirty-six years of age, applied for surgical advice, four years ago last spring, on account of an enlargement of his left knee. The disorder had existed five weeks, and was attended with a degree of pain, and heat, in the articulation.

Some purging medicine was prescribed for him, and he was directed to apply linen, wet with the saturnine lotion, to the affected knee. No more was seen of the patient for nine months, during which

time he had been under the care of different medical men, without obtaining any benefit whatever.

On his second application, the tumefaction of the articulation was much increased; the pain, heat, and tension, were very considerable; and a sensation was communicated, on feeling the condyles of the os femoris, just as if they were actually enlarged.

Leeches and the saturnine lotion were made use of, till the knee became in a more quiet state, and then a copious discharge was kept up on each side of the articulation, with very little intermission, for a year and a half. The discharge was obtained, partly, by means of blisters, and, partly, by means of caustic issues.

Though this treatment diminished the swelling around the joint, as well as the quantity of fluid in the capsular ligament, yet, the pain in the articulation, after having been at first relieved, returned, and continued in so great a degree,

that the patient could not bear to stand on the leg, nor suffer any, even the slightest, motion of the knee. For a long time, he was, also, under the necessity of taking opium at night.

Besides the above remedies, camphorated mercurial ointment was well rubbed into the knee, and mercury was internally exhibited, so as to affect the system. A fair trial was, also, given to the muriate of lime, which is sometimes serviceable in scrophulous diseases of the bones. This case, however, was probably not of a scrophulous nature; for, it had originated in a man, thirty-six years of age, in consequence of external violence, and in a constitution, in which there were no vestiges of a scrophulous habit. In the present instance, therefore, as might be expected, neither the mercury, nor the muriate of lime, proved of any utility.

In December, 1805, he was admitted into one of the London hospitals, where he remained ten weeks, without deriving

the least benefit from the various applications, which were tried.

Latterly, he has declined doing any thing for his complaint. Great pain is still experienced in the affected joint, and some enlargement of the part is still manifest. There is a degree of moveableness in the articulation; but, all motion is attended with a grating noise, and considerable pain. The leg and thigh are both very much emaciated, and, this circumstance, as I have stated in a foregoing chapter, always makes a joint seem more enlarged, than is really the case. As his general health does not materially suffer, he seems negligent of the local disease. He continues to enjoy some share of locomotion, by transmitting the weight of his body to the ground, by means of a strong forked stick, which is made fast to the hip, and supports the leg and foot.

In this case, we must allow, that the progress of the disease was arrested by the blisters and issues, though they did not ac-

complish a complete cure. They did not permanently relieve the pain; but, they diminished the thickening of the soft parts, around the articulation, in a very considerable degree.

CASE VI.

William Paley, aged forty, and a robust man, was seized, three years ago, with an affection of his right knee. The complaint had been coming on about three weeks, before he applied for advice. The joint was now considerably swollen, and affected with severe pain, extending all over the articulation. There was, likewise, a good deal of fever.

Leeches, and the saturnine lotion, were applied to the joint, and purgative, febrifuge, and opiate medicines, were prescribed. At the expiration of ten days, the febrile symptoms had abated; but, the state of the joint was scarcely altered, and, as

the pain continued to be excessive, emollient fomentations, and poultices, were used, as topical applications. This plan was certainly productive of infinite relief.

A month elapsed, before the joint became sufficiently quiet to warrant the topical employment of stimulants The articulation was greatly enlarged, and handling it created uneasiness; but, as the heat and pain were now diminished, I applied a blister to each side of the joint. As soon as the cuticle was removed, the excoriated surfaces were dressed two or three times with the savin cerate. This produced so much irritation, that the former symptoms returned, and it was necessary to have recourse again to the emollient plan of treatment, till the inflammation, &c. had abated.

The blisters were once more applied; the same consequences ensued, and the same remedies were again adopted.

The next time, when the joint had be-

come free from pain, and preternatural heat, a large issue was made with caustic, on each side of the part, and kept open by means of beans. The strictest quietude was enjoined, and the Peruvian bark administered.

As the discharge continued, so did the disease gradually subside, and as the patient was sensible of the benefit, which he reaped from the mode of treatment, he persevered in it, with all that fortitude and attention, which could be desired. A continual discharge was kept up for fourteen months, at the end of which time, his knee was considerably reduced in size, and he was able to walk, and bear upon it, with very little inconvenience. However, there is still some enlargement of the joint, and the patient has not so much motion, and strength in it, as in the other knee.

In this case, we clearly see, that perpetual blisters cannot always be employed, on account of the excessive irritation,

which they sometimes produce throughout the joint: and, that, under such circumstances, caustic issues may be advantageously made instead of them. I believe, this is most frequently the case with some kinds of rheumatic white swellings, and, very seldom, with such as are truly scrophulous; for these latter are naturally very chronic affections, and bear the stimulating effect of a blistered surface, without the production of a general irritation through the diseased joints. But, this observation only applies to cases, which are not in an inflammatory state, or (in other words), which are unattended with heat of the skin, throbbing pain, &c.

I need scarcely notice, that the last case was, undoubtedly, not of a scrophulous nature: the disease began at too advanced a period of life, and the pain, instead of affecting one particular part of the joint, was general and diffused.

CHAP. V.

Treatment of the White Swelling concluded.

WHILE the patient's constitution continues equal to sustain the irritation of a scrophulous, or other inveterate disease of the knee-joint, no humane practitioner would ever think of proposing amputation of the limb, however difficult, or impossible, he might hitherto find it to cure the malady, or even retard its progress. Such sudden alterations for the better do sometimes succeed a long duration of intractable disorder in a joint, that no man can pronounce with certainty, that every chance of preserving the limb is at an end.

The state of the general health, and not

of the local disease, is the only thing, that can form a solid reason for the removal of the affected member. When the strength of the system has been almost exhausted by the severe effects of the local malady on the constitution, I see no rational alternative. A longer attempt to preserve the limb would only plunge the patient into so feeble a condition, that no mortal effort, no human skill, nor science, could again recal the sad, though consolatory dilemma, of losing the limb, for the sake of preserving life.

What man of common understanding, aware of the severe nature of hectical symptoms, after they have lasted a considerable time, can feel a want of decision in these cases? What reasonable being can suppose, that a speedy dissolution will not result from the total loss of appetite, rest, and strength, profuse night sweats, and as profuse purgings, which foil, as Mr. Pott very ably describes, all the efforts of me-

dicine, and bring the patient to the brink of destruction?*

But, never let the surgeon undertake the important operation of amputation, merely, on account of the unpromising aspect of a diseased joint. If, governed by this consideration alone, he should presume to advise the use of the knife, he is guilty of the most culpable ignorance. I again repeat (for, I think it a subject of the highest consequence), that the debilitated state of the constitution, the impaired state of the health, is the only thing, which can ever urge the performance of amputation, in cases of white swellings. If the strength is still remaining, though the diseased joint may be immensely enlarged; nay, though it may be surrounded with abscesses; the operation of removing the limb is not indicated, and that

* Chirurgical Works, vol. iii. Remarks on Amputation, p. 371. Edit. 1783.

man evinces a very mistaken judgment, who recommends, under such circumstances, the employment of the knife. As I have already said, while the constitution shews itself equal to the struggle, it is impossible to prognosticate with certainty, that a white swelling, however bad it may be at present, will not have such a termination, as shall enable the patient to preserve his limb.

Doctor Jeffray, professor of anatomy and surgery in the college of Glasgow, laid before the public, a short time ago, all the facts, which are extant on the subject of the excision of carious joints, as an operation to supersede the removal of the whole limb.*

The observations which I have to make

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* Cases of the Excision of Carious Joints, by H. Parke, Surgeon in the Liverpool Hospital; and P. F. Moreau, M. D. de l'ecole de Paris: with Observations by J. Jeffray. 1806.

on this subject are few; but, I hope, they will be to the point.

My sentiment has been already stated with regard to the time, when every hope of curing a diseased joint ought to be abandoned. I have stated, that the approach of dissolution, in other words, the sunk state of the system, can be the only solid reason for amputation, and that, as long as the patient's strength is not subdued by the irritation of the local disease, humanity dictates the propriety of persevering in an attempt to save the affected limb. Indeed, I would reprobate any man, who should inculcate the premature practice of a severe operation, as being either defective in professional judgment, or destitute of a proper regard for his fellow-creatures.

Will a patient, greatly reduced by hectic symptoms, be able to recover from so bold, and bloody an operation as the dissection of the whole of the knee-joint out of the limb? If some few should escape,

with life and limb preserved, would the bulk of persons, treated in this manner, have the same good fortune?

I cannot admit, that the extirpation of the whole of so large an articulation, as the knee, can be compared with the operation of amputation, in point of simplicity and safety. However, it is not on the difficulty of practising the former, that I would found my objections; for, I believe, that any man, possessing a tolerable knowledge of the anatomy of the leg, might contrive to achieve the business.

The grounds, on which I shall at present withhold my approbation from the attempt to cut out large joints, are the following:

1. The great length of time which the healing of the wound requires. Whoever peruses the case of Hector M'Cagben* will find, that the operation was performed on the 2d of July, 1781, and that it

* Page 18.

was February 28th of the following year, before all the subsequent abscesses and sores were perfectly healed. This space of time is very nearly eight months! Mr. Parke describes the patient as a strong, robust sailor; and gives us no further particulars concerning the state of his constitution, at the time of the operation, than that his health was declining. I entertain little doubt, that if the excision of the knee had been performed in that state of the health, in which amputation becomes truly indispensable, this man would not have survived the operation. The only other case, in which Mr. Parke extirpated the knee, ended fatally. In the instance related by Moreau,* there seemed, indeed, to be considerable debility. This patient escaped the first dangers consequent to so severe an operation; and, *after three months confinement,* the patient was in such a state, that M. Moreau expected, he

* Page 129.

would be *able to walk upon crutches in another month, or six weeks!* The young man, in the mean time, was attacked with an epidemic dysentery, which carried him off.

2. Even supposing the excision of the knee-joint to be followed with all possible success, is the advantage of having a mutilated, shortened, stiff limb, in lieu of an artificial leg, sufficiently great, to induce any man to submit to an operation, beyond a doubt, infinitely more dangerous in the result, than amputation? I think not.

I should be sorry to appear prejudiced against any branch of practice; but particularly so, when the method is, in some degree, supported on the basis of fact, and the recommendations of very respectable characters. I profess myself to be a sincere admirer, and a warm, though feeble, patron of all rational innovations and improvements, and, it would be with heart-

felt pleasure, that I should foresee any likelihood of the present proposal becoming really beneficial to mankind. The esteem, in which I hold my profession, will always render me anxious for its cultivation. But, the very same principles, which would urge me to extol certain introductions into practice, will always force me to condemn others, of which I cannot form so propitious an opinion.

It seems to me not unlikely, that such cases as are related by Mr. Parke and M. Moreau may even occur again, and be laid before the public, with circumstances, forming a stronger recommendation of the practice. But, I am afraid, that the events of such examples will always be considered, rather as escapes, than scientific cures; as instances rather to be remembered, than imitated.

I shall say nothing concerning the extirpation of other articulations, except that the operation in the elbow, would not

be so formidable as in the knee. When the disease is in this situation, however, amputation is also less severe, than when performed on the thigh.

These are all the remarks, which I presume to offer at present, on the subject of white swellings of the knee.

PART III.

DISEASE OF THE HIP-JOINT.

CHAP. I.

Description of the Complaint.

IT is far from my intention in the subsequent columns to take a view of the whole of this interesting subject. If I succeed in tracing the characteristic features of the present disease; explaining the most efficacious plan of treating it, and laying before my readers a few interesting cases, I shall feel that my undertaking, however incomplete, will not be altogether destitute, either of useful, or

original matter. In performing this task I shall aim at adopting the same simplicity of style, which it has been my wish to diffuse throughout the preceding pages. To such readers as may admire a more ornamented and florid production, I can only say with Celsus, "*morbi non eloquen-*" *tiâ sed remediis curantur.*"*

The first proposition, with which I shall commence, is that the complaint, commonly called the "disease of the hip-" joint," is very analogous in its nature to the white swelling of other articulations. Like the latter malady, it probably has its varieties, some of which are undoubtedly connected with scrophula, while others cannot be suspected of having any concern with a strumous habit. I believe, that, in a given number of cases, there are more diseased hips, quite independent of scrophula, than there are white swellings of other joints. We have noticed, in the

* Præf. lib. i.

second part of this dissertation, that young subjects are most particularly subject to scrophulous diseases, and of course to that affection of the joints, which is commonly considered to be connected with a strumous constitution. It has been stated, that if a person live to the age of five-and-twenty, perfectly free from all scrophulous symptoms, the hazard of his ever becoming afterwards afflicted with a true scrophulous complaint, may be regarded as almost past. Hence, all morbid affections of the joints, first occurring after this period of life, and under such circumstances, I think, may be justly deemed to have no connexion with scrophula.

Disease of the hip-joint is most commonly met with in children under the age of fourteen; in this respect, it is very analogous to the true white swelling. But, no age is exempt from the malady: so that though children form a large proportion of those subjects, who are afflicted; yet the number of adults, and even of

old persons, is much more considerable in a given number of these cases, than we find to occur in the same number of cases, in which the knee is diseased. This is my reason for thinking, that there are more hip cases unconnected with scrophula, than there are examples of white swellings being similarly circumstanced. Of course, I apply the observation only to a definite number of cases of each disease; for, the much more frequent occurrence of morbid knees, ankles, wrists, and elbows, than of diseased hips, would destroy the accuracy of the remark, if taken in a general sense.

The approach of the hip disease is far more insidious, than that of a white swelling. The latter is generally preceded by severe pains; while the only forerunner of the former is frequently a slight weakness and limping of the affected limb. This state is too often overlooked, and when noticed by men, little versed in the profession, is commonly treated on prin-

ciples, the most repugnant to surgical science. Embrocations are generally prescribed, without any injunction to keep the limb in a quiet state. The application is, also, oftentimes made to the knee, or other part of the extremity; for as there is frequently an uneasiness about that joint, when the hip is affected, and as no pain whatever is sometimes mentioned, as occurring in the latter situation, till a more advanced period of the malady, it is not uncommon to see careless practitioners directing their remedies to some situation, very different from that of the disease. While such applications as stimulating liniments are directed, the shrewd observer may remark, that the error is a fortunate one, and that it is better to apply nothing, than what is of an irritating nature. I coincide most sincerely with this sentiment; but how shall we excuse such supine neglect, such guilty ignorance, when we are informed, that this incipient period of the complaint is the only one,

in which a favourable prognosis might be made! for, mere rest, and repeated topical bleeding, will now have more effect, in the course of a fortnight, than large painful issues will afterwards generally have in the long space of a twelvemonth.

The first diagnostic symptoms of disease in the hip joint, if we merely look for them in the situation of that articulation, are not particularly conspicuous. It is true, that a fixed pain behind the trochanter major, in some instances, very soon excites the attention of the most careless surgeon to the seat of the morbid affection. But, mere pain in a joint, quite free from visible enlargement and external change of colour, is generally disregarded as a complaint of no importance in young subjects, and as a mere rheumatic, or gouty affection, in adults. Even when the pain begins to be severe, it is commonly not confined to the seat of the disease; but shoots downward in the course of the vastus externus muscle to the knee, and along

the outer part of the fibula to the malleolus externus. I have often found, that patients refer most of their painful sensations to the groin. In short, there is no particular symptom, occurring in the precise situation of the morbid affection, so as to form an infallible pathognomonic mark of its existence. But, still the characters of the disease are very strong, when examined by a surgeon, who has paid attention to the subject.

Almost as early as the least limping can be perceived, some diminution in the circumference of the leg and thigh has actually taken place, as may be easily found by an accurate measurement.

The hip joint is deeply situated, so that its accidents and diseases cannot be examined as readily as those of many other articulations. The generality of surgeons little think, that the proper place for pressing on the hip joint, with a view of ascertaining the presence of disease, is a little on the outside of the femoral artery, soon

after it has descended below the brim of the pelvis. At this spot, the surgeon may apply pressure to the front of this large articulation, and if it be diseased, considerable pain will be the consequence of the experiment.

The limping gait denotes, that something is wrong in the limb, and if this symptom cannot be attributed to some affection of the vertebræ, or some recent accident; and if it be conjoined with the above-mentioned emaciation of the affected member, and exasperation of pain on pressing the front of the acetabulum; the evidence of disease in the hip becomes more and more convincing. The weakness of the lower extremities from diseased vertebræ, I believe, always affects both limbs at once, and is unattended with pain about the knee; circumstances completely discriminating this complaint from the feebleness of the limb, arising from a disorder in the hip joint.

Another remarkable symptom, is the

elongation of the limb in the incipient stage of the hip disease. Mr. Ford * has very ably pointed out the right method of discovering the circumstance, by comparing the condyles of the os femoris, the patella, the trochanter major, and the malleolus internus, of the diseased limb, with the same parts of the sound one.

I think, the great elongation of the lower extremity, in consequence of disease in the hip, has never been accurately explained. It is a fact, that the limb not unfrequently becomes three or four inches longer, than the sound one. Dr. Falconer † of Bath, says, that "if the cartilage, or periosteum be thickened in the superior parts (of the head of the os femoris, or acetabulum) it will thrust the head of the bone downwards and lengthen the limb." The error of this explanation is easily ex-

* Observations on the Disease of the Hip Joint, &c. p. 12.

† Dissertation on Ischias, &c. p. 17.

posed by stating, that the diameter of the acetabulum itself is not so great, as the lengthening of the limb, and that it is almost completely occupied by the head of the thigh bone, so that the degree of perpendicular motion of the femur must, as long as the acetabulum continues entire, be very inconsiderable. No relaxation of ligaments, if ever there were such a state, could account for the fact; for, in the most healthy condition of the hip joint, no ligaments, (if we except that, which completes the bony deficiency at the lower and inner part of the acetabulum) are concerned in preventing the os femoris from descending downward. The ligamentum teres resists the dislocation of the head of the bone upward, but not downward. The orbicular ligament is naturally lax, and, like all other capsules of the joints, must rather be considered as a bag for containing the synovia, than as a means of increasing the strength of the articulation. I am very much disposed to believe,

that, in the very early stage of the hip disease, the cartilage and ligament, completing the lower and inner part of the acetabulum, are destroyed.* If this be not the case, I acknowledge myself totally incapable of conceiving, how the limb can become lengthened to the extent, which it frequently does, in cases of diseased hip joints. The bone is certainly not pushed out of the cotyloid cavity in a lateral direction, for if it were so, the muscles would draw the bone upward, and shorten the limb, as we find actually occurs as soon as the upper and posterior part of the acetabulum and the ligamentum teres, are so destroyed, that they make no resist-

* Mr. Ford has given an account of the morbid appearances found in a recent case, and attended with elongation of the limb. It does not appear, that in this instance, there was a destruction of the ligament and cartilage completing the lower and front part of the acetabulum. How the limb could be elongated, while the head of the bone was in its socket, I am at a loss to conjecture.

ance to this kind of dislocation. Mr. Ford is entitled to the merit of having first pointed out to surgeons, "the altera- "tion with respect to the natural fulness "and convexity of the nates, that part "appearing flattened, which is usually "most prominent." The glutæus magnus becomes emaciated, and its edge no longer forms so bold a line, as it naturally does at the upper and back part of the thigh, in the sound state of the limb. This is one very strong feature of the early state of the disease, and it has been accurately represented in an engraving in Mr. Ford's work.

Though there may be more pain about the knee, than the hip, at some periods of the malady in its incipient state, the former joint may be bent and extended without any increase of uneasiness; but, the thigh bone cannot be moved without augmenting the sufferings of the afflicted.

Patients with diseased hips soon get into the habit of bearing the weight of the

body chiefly on the other extremity, so that they bend the thigh of the affected side forward, in order to touch the ground only partially with the foot. It ought also to be noticed, that this is found at all times to be the most easy position of the limb, and every attempt to extend it proves productive of pain.

Such is the first stage of the disease in its ordinary form, in which we generally find the health little disturbed.

The malady is usually not very painful to the touch, except the pressure be applied to the front of the joint, the part, which is undoubtedly the most superficial. But, there are instances, and I have frequently been an eye-witness of such, in which all the soft parts surrounding the joint are tense, exceedingly painful when handled, and in which the integuments are even tinged with a light pink blush. I have generally observed the complaint to assume this appearance in patients, who have been guilty of imprudent exercise,

and in the children of the poor, who cannot attend to the disorders of their offspring in a proper manner.

We come now to the second stage of the disease, or that, which is attended with suppuration.

The symptoms, which are the forerunners of the formation of the pus, are different in different cases. This variety depends upon the presence of acute, or only chronic inflammation. When the former occurs, the parts surrounding the joint, become tense and extremely painful; the skin is even reddish; and the patient experiences an attack of sympathetic inflammatory fever. As the local pain abates, rigors take place, a swelling forms in the vicinity of the joint, and very soon points.

When the abscess is the consequence of that languid kind of inflammation, which usually occasions scrophulous collections of matter, there is not so remarkable an increase of pain in the articulation, previously to the occurrence of suppuration.

Mr. Phillot, surgeon to the Bath General Hospital, says, that startings and catchings during sleep are, in this stage of the disease, among the most certain signs of the formation of matter.* When the pus forms in this chronic manner, it does not make its way to the surface of the body so quickly, as when the abscess has been the immediate result of active inflammation, attacking the morbid joint. A large fluctuating tumour forms; but, it does not immediately point. The patient suffers greater uneasiness in the part; yet, his sensations do not amount to that acute description of tenderness, which affects, in the foregoing instance, not only the deep, but also the most superficial parts around the articulation.

At length, the limb becomes shortened, and this circumstance, when the retraction is very considerable, arises from nothing

* See a note, p. 9, of Falconer's Dissertation on the Ischias.

less, than an actual dislocation of the head of the thigh bone, in consequence of the destruction of the cartilages, ligaments, and articular cavity. The shortening of the limb sometimes happens before suppuration; for the most part, I believe, after it. There are instances, in which the head of the bone is dislocated, and anchylosis follows, without any occurrence of abscesses.

Sometimes, before matter forms, patients are seriously dejected by hectic symptoms. In the suppurative stage of the malady, these effects on the constitution always become worse. The patient loses his appetite; cannot sleep at night; has a small frequent pulse; colliquative sweats; and, too often, a very obstinate and debilitating diarrhœa.

The openings, through which such abscesses, as I have described, are discharged, continue, in most instances, to emit an unhealthy kind of matter for a long time after their first formation. They

become, in fact, the terminations of sinuses leading to the morbid joint.

When disease in the hip-joint follows external violence, the advances of the malady are somewhat different from the above description. The symptoms, which precede the affection, are a violent pain at the instant of the accident, and an inability to move the limb. However, this privation of the faculty of moving the member, is not so complete, as when the neck of the os femoris is fractured; because the superior part of this bone, and the articular cavity, which have suffered no alteration, form a sufficient fulcrum to enable the muscles to act on the thigh. The injury is very soon followed by more or less swelling, pain, and fever. No diminution in the length of the limb can be perceived, nor is the position of the knee and foot at all altered. But, afterwards, the thigh becomes gradually shorter, and the foot turned inward. The patient cannot move without experiencing the most

acute pain. An abscess commonly forms at the upper and middle part of the thigh, and if no amendment take place, hectic disorders, sooner or later, occasion the patient's dissolution.

To illustrate the progress of the disease, when the consequence of external violence, and to point out the ravages, which it produces in the parts affected, I have inserted the following interesting case, which is the abstract of one, related by M. Sabatier, in the Mem. de l'Acad. de Chirurgie.

CASE VII.

A boy, about fourteen years of age, had for two years a considerable abscess at the anterior and superior part of the right thigh. The extremity on this side was about three finger-breadths shorter, than the other, and the toes were turned in

ward. An œdematous swelling occupied the lumbar region and the situation of the glutei muscles, and extended down the thigh even to the knee. There was a good deal of pain all around the abscess, and particularly in the groin, where the glands were swollen and hard.

The child had fallen on his knee on the 15th of June, and afterwards experienced such pain, shooting from that joint to the top of the thigh, that he was obliged to remain in bed for four days. The pains having abated, he got up, and attempted to take his usual exercise again; but he found that he could not support himself, and was necessitated to make use of crutches until the 3d of January following. In the mean time, the inguinal glands became considerably enlarged. This symptom was somewhat relieved by emollient and resolvent applications. The pain, however, continued to increase daily; the difficulty of walking, even with

crutches, became greater and greater; and the thigh began to be shorter, than the other.

An empirical practitioner, who was consulted, pronounced, that the thigh was dislocated, and that it was proper to reduce it. Such attempts as he proposed with this view were put into execution. Some time, afterwards, he desired the patient to walk; but this the latter was quite incapable of doing without crutches, and without greater pain, than ever.

At length, the glands in the groin swelled again, and the above mentioned abscess began to manifest itself about the middle of February.

The contents of this abscess were afterwards let out, through a small puncture, by a regular surgeon. The quality of the matter was fetid, and the quantity three pints. The immediate consequences of the operation were successful beyond expectation. The tumefaction of the thigh decreased; the inguinal glands became

smaller; the pains were not so acute as before; and almost all febrile disturbance disappeared. Such symptoms, however, soon recurred with greater vehemence, than ever, and an abscess formed in the groin, and burst spontaneously. The thigh became shorter and shorter every day. The leg and foot were attacked with an œdematous erisypelas, and the patient at length died, five months and a half after the operation.

On dissection, several collections of pus were discovered, some among the glutei muscles, and others on the external surface of the os ilium, and in the situation of the cotyloid cavity. The muscles on the anterior and superior part of the thigh were covered with a large quantity of matter, similar to what was discharged from the principal abscess. The latter collection extended even into the hip-joint. The femur was drawn upward above four finger-breadths on the external surface of the os ilium. The cartilage,

which covers the head of the former bone, was entirely destroyed, and this part of the bone altered, and marked with deep excavations in consequence of caries. In this case, the acetabulum was totally destroyed, so that the femur had been luxated, because the brim of the articular cavity having been effaced, the head of the bone was obliged to obey the action of the muscles. All the outer surface of the os ilium, on which the head of the thigh bone had glided, was affected with a kind of carious distemper, and fragments of it easily crumbled off.

No elongation of the limb is recorded in this case; but, in all probability, this circumstance occurred in the early stage of the disease, before a regular surgeon was consulted.

But to return to the description of the interesting malady, now under consideration. It is observed by Dr. Falconer, that the tuberosity of the ischium is, in many

instances, though not always, lower on the affected side, than the other. To confirm this circumstance he mentions the pelvis of a person, who died in the Bath General Hospital. In this specimen, which was preserved there many years, the fact was demonstrable. If this alteration were evident in the bones of the skeleton, the circumstance must arise from a permanent distortion of the pelvis, and cannot be the mere temporary effect of any particular posture of the patient during life. As I have never seen this appearance, either in the dead, or living, subject, I shall not dwell upon it. The thing is curious, and merits attention.

With respect to the morbid anatomy of the disease in its incipient state, little is known. Two dissections related by Mr. Ford are, I believe, the only ones throwing light on this point. In one, there was a tea-spoonful of matter in the cavity of the hip-joint. The head of the thigh bone was a little inflamed, the cap-

sular ligament a little thickened, and the ligamentum teres united in its natural way with the acetabulum. The cartilage lining the cotyloid cavity was eroded in one place, with a small aperture, through which a probe might be passed, underneath the cartilage, into the internal surface of the os pubis, on one side, and, on the other, into the os ischii; the opposite, or external part of the os innominatum, shewing more appearance of disease, than the cotyloid cavity. In the other case, the disease was more advanced. These examples are important, inasmuch as they prove, that the hip complaint primarily affects the cartilages, ligaments, and bones, and not the surrounding soft parts, as De Haen, and some others, would lead one to believe. As the disorder advances, the portions of the os ischium, os ilium, and os pubis, forming the acetabulum, together with the investing cartilage, and synovial gland, are destroyed. The cartilage covering the head of the os femoris,

the ligamentum teres, and capsule of the joint, suffer the same fate, and caries frequently affects not only the adjacent parts of the ossa innominata, but also the head and neck of the femur. I believe, however, that the bones of the pelvis always suffer more, than the thigh bone. The malady may even have made such ravages as to have completely destroyed the brim of the acetabulum and dislocated the head of the os femoris, and yet the substance of the latter part may be free from all distemper. The following fact illustrates the veracity of this remark.

CASE VIII.

A subject was brought to the dissecting room at St. Bartholomew's Hospital, and it was noticed by the gentlemen present, that there was great retraction of one of the lower extremities, owing to some morbid affection about the hip-joint. On cutting

into the parts, a very large abscess was found on the dorsum of the ilium, and, in the midst of the matter, the head of the thigh bone was found lodged on the ilium. The cotyloid cavity was completely destroyed by disease, together with all the ligaments and cartilages. The head of the femur was quite perfect, and free from the slightest mark of caries, though its cartilage was slightly eroded in a few places.

The preparation, shewing this fact, is preserved in the anatomical museum of the above hospital.

The particulars of the case, before death, were unknown. As I believe no author has recorded a similar instance, and as the fact, that the ossa innominata are generally more affected, than the femur, is very important, I thought the insertion of this interesting and striking example would be better, than any long reasoning on the matter.*

* Mr. Ford says, " In every case of disease of the " hip joint, which has terminated fatally, I have re

Sometimes, however, the head and neck of the thigh are completely destroyed by the same morbid process, which annihilates the acetabulum. There is a specimen of this fact in the above mentioned museum, and Mr. Ford has given, in his valuable work, an engraving illustrative of such a case.

I have only to say, on the subject of the remote causes of the hip disease, that they are very imperfectly known. External violence is undoubtedly one, and the testimony of numerous respectable writers confirms, that lying down on the damp ground in summer time, and, indeed, all kind of exposure to damp and cold, are frequently conducive to the origin of the malady.

" marked, that the os innominatum has been affect-
" ed by the caries in a more extensive degree, than
" the thigh bone itself." P. 107.

The knowledge of the circumstance is extremely important, because it displays the absurdity of attempting amputation in these cases.

For this reason, the lower orders of society are rather more subject to the affliction, than the higher classes. The particularities, however, in the affected joint, or in the constitution, which cause the disease to take place in some persons, and not in others, though similarly circumstanced in life, are, perhaps, beyond the reach of human investigation. A scrophulous habit is certainly one predisposing circumstance; but, the disease often takes place without any suspicion of scrophula, and without any palpable cause whatever.

CHAP. II.

Treatment of the Disease of the Hip Joint.

By referring to the writings of Hippocrates, Celsus, Cælius Aurelianus, &c. we shall discover, that our forefathers are indisputably entitled to the honour of having employed every efficacious plan, even now known to the moderns, of treating the disorder of the hip joint. Forming an eschar, and keeping the sore open; topical bleedings; fomentations; cupping; &c. were all practised by the ancients. The Bath water they certainly did not use, and if it have such immense effect as Dr. Falconer has represented, I must candidly own, that past ages have been very unfortunate in not having sooner found out the utility of this remedy in the incipient state

of the hip disease. Dr. Falconer has given a table of the state of the patients at their discharge, who were admitted into the Bath Hospital for hip cases, from May 1, 1785, to April 7, 1801. The number amounts to five hundred and fifty-six, of which one hundred and three were cured, one hundred and sixty-eight were much better, one hundred and eleven were better, thirty-three were no better, one hundred and twenty-two were improper objects, the disease being too far advanced, thirteen were discharged for irregularity, and six dead. Now, from the numerous cases, which I have seen of this disease, I have not the smallest hesitation in asserting, that the success at Bath far exceeds any thing ever met with in this metropolis. It is to be observed, however, that Drs. Charlton, Oliver, Falconer, and other advocates for the Bath water, agree, that its utility as an external application, in these cases, is limited to that incipient state of the disease, unaccompanied either with

hectic fever, or with suppuration, and that as soon as one, or both the latter circumstances occur, the application then becomes injurious, and ill deserves the name of a remedy. Patients, in order to derive benefit from the water, are placed in a warm bath for fifteen to twenty-five minutes, two or three times a week.

When we consider the nature of the disease of the hip-joint, and reflect on its deep situation; when we recal to mind the distempered state soon produced in the cartilages, ligaments, and bones of the articulation; we can hardly believe, that the mere external use of any remedy, like Bath water, can have such powerful influence over the disease, as we might be led to suppose from a perusal of Dr. Falconer's pamphlet. For my own part, I regard the subject in a very different point of view. I doubt whether all the numerous instances, adduced in support of the practice, were, really and truly, cases of the hip disease. Many of them might have

been merely rheumatic affections. My suspicions originate in consequence of Dr. Falconer's admission, that cases attended with hectic fever, or suppuration, are never benefited by the same treatment; in consequence of the facility of mistaking other maladies for incipient hip cases; and in consequence of the table, delivered by Dr. Falconer, being taken from a register of the hospital; a thing very likely to be drawn up in a careless manner. Such a statement was probably not formed by a man, whose talents and discrimination were equal to those of the respectable practitioner, who is the author of the pamphlet on this subject. I am entirely of opinion with Mr. Ford, that any kind of warm bathing would have been productive of the same benefit. I cannot say that it has occurred to me to see much of the practice of placing patients, afflicted with the hip disease, in the warm bath; but I have repeatedly seen fomentations em-

ployed. The latter applications undoubtedly relieve pain; and, in early cases, are very proper to be tried in conjunction with topical bleeding. I can, however, impute to them no efficacy in producing any permanent amendment in the disease. Topical bleeding with leeches, and cupping the circumference of the affected joint, provided the case is attended with symptoms denoting inflammation of the joint, are the measures, which I shall confidently recommend. The fomentations may be applied two or three times a day for half an hour; but, as great utility does, in my humble opinion, originate from cold saturnine applications to the part, I cannot but recommend them to be used during the remainder of the day.

This plan of treatment, I think, ought never to be employed, unless there are manifest marks of active inflammation in the joint; for, when no such state exists, the method can only be considered as pre-

venting the employment of a more beneficial plan, and, therefore, as deserving of severe reprobation.

As far as morbid anatomy can inform us, the hip disease consists in the same alteration of the bones, ligaments, and cartilages, as we find exists in the generality of white swellings. As far as my experience extends, both diseases ought to be treated on the same principles. But, though I have found blisters most efficacious in checking disease in the knee, caustic issues have appeared to me to excel in hip cases. The benefit resulting, however, from both applications are to be imputed partly to the counter-irritation, and partly to the discharge, which they occasion.

CASE IX.

Shewing the Efficacy of a Caustic Issue in an Example of the Hip Disease in a recent State.

G. H., a boy eleven years of age, without any assignable cause, began to experience a weakness and lameness in the left lower extremity, and his complaint was attended with severe pain at the outer part of the knee. At length, he became quite incapable of taking his usual exercise, lost his appetite, and became pale and wan in the countenance. When surgical advice was first requested, the disease had existed about two months; there was a good deal of pain in the groin; the inguinal glands were even somewhat enlarged; the glutei muscles did not seem so prominent as in the natural state; and the whole limb was palpably more emaciated, than the other. The knee joint could be bent and extended

without causing the least uneasiness; but the thigh bone could not be moved without exciting severe pain.

Sept. 19th, 1805. An issue, about as large as a half-crown, was made in the hollow just behind the trochanter major. About eight days afterwards, the slough was detached, and as many beans, as would conveniently lie in the cavity of the sore, were placed there.

The lad began to be materially better at the end of the following month; he could then move the joint without pain, and there were no sensations of nervous irritation shooting down the extremity.

About the middle of November he was able to walk tolerably well without crutches. The issue was kept open for six months, at the end of which time, the emaciation of the limb had quite disappeared, and there was almost as much strength in this member, as in the one, which had been quite unaffected; in short, the lad found himself so well, that his

friends allowed the issue to be healed, and the boy to go to sea; a life, for which he had a strong inclination. No medicines were administered during the whole of the treatment.

CASE X.

Terminating in Dislocation of the Os Femoris; the Disease stopped; and the Patient recovered.

Mr. W. S. H—, a gentleman, twenty-eight years of age, was seized, whilst walking on the 13th of April, 1803, with so violent a pain in the groin, that he reached home with difficulty.

In the preceding October, he had a swelling of the inguinal glands, unconnected with any venereal causes. This complaint ended in an abscess, which burst, and the aperture had closed shortly before the present attack. A few years be-

fore, he had a similar swelling in the axilla. The pain in the hip continued so violent, as to confine him to bed. The limb was much lengthened at this period. Leeches, fomentations, and poultices, had been employed at first, and an issue afterwards made behind the trochanter.

When Mr. —— was consulted, pressure on the trochanter gave great pain. The patient kept his bed. The issue was allowed to heal. Leeches were repeatedly applied to the front of the joint. When moderate pressure could be borne without much inconvenience, a large blister was placed on the front of the hip, and dressed with cerat. sabin.; but so much pain and irritation ensued, that the excoriated part was allowed to heal.

Soon afterwards the patient was attacked with violent pain in the joint, and spasm of the muscles, during which state, the slightest motion could not be endured. An abscess formed, and burst in front of

the trochanter. The patient experienced afterwards some respite; but the fits of pain, and spasm recurred with increased violence, and when they ceased (about the middle of August), it was manifest, that the limb had become dislocated; for it was three inches shorter, than the opposite one. The patient now became easy: a large issue was made behind the trochanter, and it discharged copiously. The gentleman completely regained his health and spirits. The dislocation of the bone occasioned a great swelling of the hip, and there were a strongly marked depression, and vacancy in the groin. In October the limb was only two inches shorter, than the opposite one. He can walk tolerably well with crutches; but is not allowed to bear any weight on the limb. In November he went into the country, and returned to town in the following June. His health had been constantly good, and the limb free from complaints, the issue

continuing open. He has never attempted to move the affected joint, nor to walk without crutches.

CASE XI.

Terminating in Dislocation of the Os Femoris, and, probably, Anchylosis.

M. H—, aged fourteen, was admitted into St. Bartholomew's Hospital, afflicted with a disease in the hip joint. The case had advanced to the suppurative stage, before any issue was made. An eschar, about as large as a half-crown, was at last formed, and the issue was dressed with beans. Some amendment took place soon afterwards, and the matter beneath the skin was certainly less in quantity, than it was at first. The girl's health, which was at first in a very bad state, was also improved. Symptoms of active inflammation unfortunately came on; the abscess

became very large, and the surgeon felt himself obliged to puncture it, in order to procure some degree of relief. The patient continued in the hospital near a twelvemonth, sometimes better, sometimes worse. The limb, some time before she was discharged, had become three or four inches shorter, than the opposite one. The toes turned inward; and the joint quite motionless. The sinuses leading to the joint healed, and the girl regained her health. She will always have, however, a stiff joint. The limb is now not quite so short as it used to be, and some hopes are entertained, that she will be able to walk without crutches, by having a high-heeled shoe.

When much retraction of the limb succeeds disease in the hip, we may be sure, that either the neck of the thigh bone is destroyed, and the main portion of the bone drawn upwards, while its head remains in the acetabulum, if it be not also thoroughly annihilated by the morbid af-

fection; or that the head of the bone is dislocated, in consequence of the destruction of the brim of the acetabulum, and articular ligaments. If a case were to occur, in which the limb was considerably shortened, and the toes turned outward, I should conclude, that the head of the os femoris was separated from the rest of the bone, and that the muscles had rotated the limb outward. But, when the toes are turned inward, as all the great muscles of the thigh have a propensity to twist the os femoris outward, we may conclude, that this position of the limb is mechanically prevented from taking place, by the head of the thigh bone being situated backward on the dorsum of the ilium.

CASE XII.

Shewing a curious Plan of Treatment adopted in a Case of diseased Hip, and followed by Effects which few would expect.

A very respectable gentleman, residing in the west of England, had a disease of the hip joint. Suppuration took place in the part affected, and the matter was discharged by spontaneous external openings. Very extensive sinuses remained, which discharged largely. His health of course became materially impaired. Two respectable practitioners, a physician and surgeon attended, the gentleman. After the patient had been under their care a considerable time, things still remaining in nearly the same state, another medical man was called in to a consultation. The latter boldly undertook to ef-

fect a cure, and he kept his word: *he injected the sinuses with oil of turpentine.* Healthy inflammation was produced, without any considerable constitutional disturbance. The sinuses closed, and the joint anchylosed. The patient is now well, having only a stiff joint.

The gentleman, who favoured me with this interesting article, is a very respectable surgeon, and a man endowed with talents far above those of the ordinary stamp. He very ingeniously states, that the stimulus of turpentine is of a very peculiar nature: when applied to the raw surface of a burn, or scald, it gives no pain, and the surface of a chronic abscess cannot be in a more irritable state.

I make no comment on the case: but the fact seems to me highly deserving of a place in the records of surgery.

As I have not taken any notice of diseased vertebræ in the present dissertation, and it is an affection so very analogous to disorders of the knee and hip, already treated of, I think it may be proper to conclude these observations with a case, which I have lately attended, and indeed visit now, whenever occasion requires my presence.

CASE XIII.

Shewing the Efficacy of Issues in Cases of diseased Vertebræ.

Miss E——, a little girl, ten years of age, living in Prince's-street, Soho, was brought to my house, for advice respecting a weakness of the lower limbs. I begged to examine the back, and found, that three or four of the spinous processes of the middle dorsal vertebræ projected in a very preternatural degree. The child was

losing its health very fast, and appeared to be very weak. Its appetite was impaired, and it could not sleep at night. Very severe affections of the stomach, resembling heartburn, also frequently occurred, but a little peppermint water regularly relieved this complaint.

I formed two issues with caustic (the kali purum) on each side of the projection of the spine, making the eschars three inches long, and half an inch broad. This was done on the 3d of June, 1805. I was much surprised on paying my next visit to find, that all the child's constitutional complaints had taken a very favourable turn. The friends, who are very reputable people in business, informed me, that a few hours after the eschars had been made, the child became more full of spirit, ate better, and looked better, than it had done for many months before. In the course of a week, even before the sloughs came away, the child could walk without experiencing half the weakness it did pre-

viously. This is one of the most convincing cases, which have ever occurred to me, that issues produce their good effects by counter-irritation, as well as by the discharge, which they occasion. In this instance most surprising amendment took place, before the eschars came away, or a drop of pus had been secreted.

The little girl has now had a discharge kept up from the part for nearly six months; has recovered her health; walks as well as she ever did; and may, in every respect, be considered as cured. About two months ago, I allowed one of the issues to be healed.*

Whenever I meditate on the very great

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* A few weeks after both issues had been healed, the child's mother thought there was a degree of weakness returning in the legs. This apprehension of a relapse has, however, now quite subsided; for a short residence at Margate, which I recommended, has made the limbs completely recover their proper strength.

benefit which I have seen derived from caustic issues in cases of disease of the vertebræ, I always feel, how much we ought to honour the memory of the late Mr. Pott, through whose transcendent abilities, this and many branches of surgery were brought into a very improved state.

Here I shall conclude the present dissertation, duly impressed with a sense of its imperfections. Every thing could hardly be expected in a short production of this kind: every thing could hardly be expected from one individual, however he might multiply the number of his pages.

THE END.

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